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FLEET OWNER

THE FERGUSON PUBLISHING CO., 90 WEST ST., NEW YORK, N.Y.

Devoted to the Better Operation and Maintenance of Truck, Bus, Taxicab, Passenger Car and All Automotive Fleets

FEATURE ARTICLES:

Cost-Keeping in a Bakery Fleet
By Morris Cohen

100,000 Miles—No Major Repairs
By F. C. Fiechter

More About "To Farm Out or Not"
By A. Maintenance Mann

Farmed-Out Welding Jobs That Pay
(A Service Article)

The Case for Synthetic Enamels
By H. Clay Fischer

DEPARTMENTS:

Trouble Shooters' Forum
As We Go to Press (News)
John Law Sez: (Court Decisions)
New Products for Road and Shop
Question-of-the-Month Club

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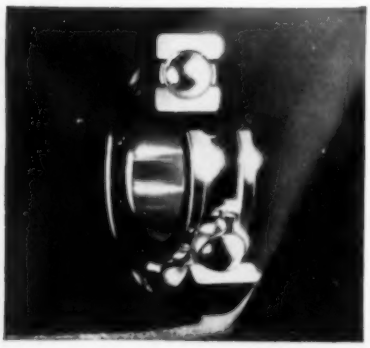

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2 Oven Heat . . . . 76 hours
3 Hot Oil . . . . . 24 hours
4 Salt Water . . . . 24 hours
5 Oven Heat . . . . 15 hours

Cable "A" FAILURE!

Cable "B" FAILURE!

Cable "C" FAILURE!

Cable "D" FAILURE!

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HERE IS THE PROOF
Four standard makes of cable failed under this grueling test. The Packard "Four-Forty" was the only cable that maintained its original appearance, flexibility, and usefulness, and showed no signs of cracking.

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See Champion Spark Plugs made. Processing of sillimanite ore, forming insulators, assembly, testing. See this display at the great Ford Motor Company exhibit at the Century of Progress.

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EXTRA-RANGE SPARK PLUGS

FRANCE—*Capt. G. E. T. Eyston established three new world's and twelve International Class E records in a streamlined Hotchkiss equipped with Champions at the Montlhery track.*

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HEAVY DUTY TRUCKS
GIVE YOU MORE *CAPACITY* AND MORE *PERFORMANCE*

Stiffer, Stronger Frames
Better Weight Distribution
Better Use of Tire Capacity
Higher Sustained Torque

The most important question to ask yourself, when about to buy a truck, is—"Has it the capacity and performance to do my job *right?*"

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Weight distribution is scientifically correct. More weight on the front axle. Less on the rear. New GMC cab-over-engine models lead in this important feature. New set-back axle models are equally outstanding in this respect. Less variation in individual tire loads.

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See the new GMC Heavy Duty Trucks at your GMC dealer's, or write the factory for further information. Complete line gives you exactly the truck you need for maximum earning power.

General Motors Trucks and Trailers—1½-22 Tons

GENERAL MOTORS TRUCKS and Trailers

GENERAL MOTORS TRUCK COMPANY — *Time Payments Available Through Our Own Y. M. A. C.* — PONTIAC, MICHIGAN

The

FLEET OWNER

Published Monthly in the interests of Automotive Fleet Owners who maintain their own Repair and Service Shops and devoted to the better Operation and Maintenance of Truck, Trailer, Bus, Passenger Car, Taxicab and all Automotive Fleets.

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It tells how the Chevrolet 33-34 vacuum spark advance operates

This is the only booklet we know of that describes and illustrates how this distinctly new method of engine control works with and without the HOOF and A.C.H. Cantilever Spring Governor.

EVERY CHEVROLET OWNER should have this book and it is of special value to the Fleet owner using 1933-34 Chevrolet.

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For all cars and trucks, including Ford 8 dual carburetors.

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Valve sticking or sluggish action caused by failure of oil from crank case to get to upper part of guide is eliminated by Thompson Graphited Valve Guides. Filled with compressed graphite compound, they provide lasting lubrication for entire bearing surface of the guide, independent of oil in crank-case.

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Used by Chrysler, Plymouth, Dodge, Lycoming, Waukesha, Etc. Withstand highest engine temperatures. Eliminate exhaust valve "pick-up," and block seat distortion. Guarantee an absolutely gas tight seal, maximum power, and fuel economy. Postpone valve grinding 30,000 miles and more.

CHROME-PLATED PISTON PINS
Because of chromium's low coefficient of friction, extreme hardness, and resistance to pitting and corrosion in the engine, Thompson Chrome-Plated Piston Pins wear much longer than lapped finished pins. Sold in perfectly matched sets.

TIN-PLATED PISTONS
Will lower maintenance costs and greatly increase mileage for piston and cylinder walls. Can be fitted with half the regular clearness and still not bind or score. Permit immediate engine operation at practically full speed and power.

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Every truck needs a Blackhawk Hydraulic, for tires still puncture and blow. The shop needs several Blackhawks, because they save time and labor on a lot of jobs.

Here is tremendous power in compact units, adapted to a wide range of uses, easily controlled, safe, rugged.

Easy strokes raise the load or apply the pressure — and the turn of a valve releases it smoothly and safely. With simple fixtures, a Blackhawk Hydraulic Jack can handle dozens of bending, twisting and pressing jobs in the shop, and still be available for routine jacking work. The handiest helper a shop can have.

Ask your Jobber Salesman about the full line of Blackhawk Hydraulics — 1 to 75 tons. Write us for free literature.

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BLACKHAWK HYDRAULIC JACKS

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Send literature on your Hydraulic Hand Jacks, capacity.....tons.

Name.....
Shop Address.....
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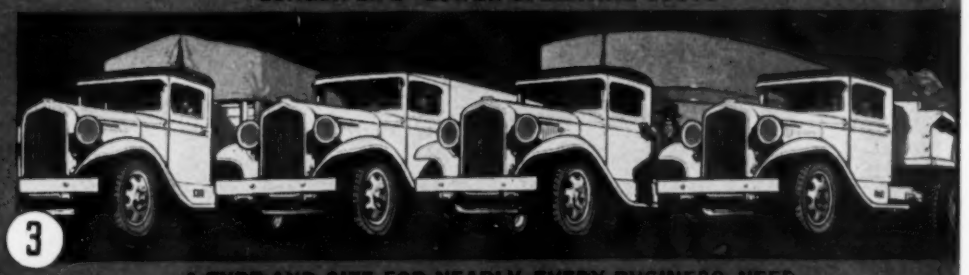
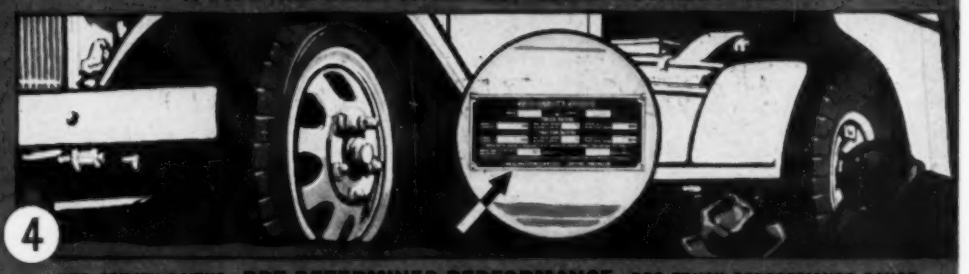
5 REASONS FOR SPECTACULAR GAINS IN REO TRUCK SALES

1 BIGGER PAY LOADS—MORE TON MILES

2 LONGER LIFE—LOWER OPERATING COSTS



3 A TYPE AND SIZE FOR NEARLY EVERY BUSINESS NEED



4 REO ABILITY RATING—PRE-DETERMINED PERFORMANCE—REO TRUCK PERFORMANCE GAUGE

SEE THESE TRUCKS—
READ THIS BOOK—
BEFORE YOU BUY!
Write Reo or phone your nearest Dealer.
$595 1½-2½ TON SPEEDWAGON
chassis f. o. b. Lansing, plus tax
With these 15 Superiorities REO Challenges the field for Low Cost Transportation!

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Two words contain the answer to Reo's spectacular gains in truck sales: UNPRECEDENTED VALUES!

Not even Reo has produced such values before—and Reo has a reputation for extra-value-building that dates back 30 years!

The 1½-2½ ton Reo Speedwagon now costs only a few dollars more than the cheapest trucks on the market—and has quality features that easily rank it with the most expensive.

Operators who demand the most for their money find that it pays to look *beyond the purchase price.* They figure the *cost* in terms of ton-miles instead of thinking only of the original *price.*

On this basis, Reo naturally continues to gain. Any fair comparison is too much in Reo's favor to escape the buyer who is looking for FACTS!

Reo Speedwagons and Trucks range from ¾ to 4-6 tons. New low prices—$530 and up. 32 wheelbases, all with Reo Gold Crown Engines. Tractor-Trailer units with correct load distribution and maximum pay load capacity. All prices chassis f. o. b. Lansing, plus tax. Dual wheels extra.

THE QUALITY TRUCK IN THE LOW PRICE FIELD

REO MOTOR CAR COMPANY, LANSING, MICHIGAN

Say "I saw it in FLEET OWNER"—It Helps!

LONG FAST SERVICE MADE *More Dependable* WITH Firestone TRUCK TIRES

THE Geo. A. Hormel Co. of Austin, Minn., operate daily a fleet of more than 350 trucks averaging as high as 400 miles per day — in all kinds of weather and on all types of roads. This fleet is equipped 100% with Firestone Tires, Firestone Batteries and Firestone Spark Plugs. With these extra quality products they have successfully eliminated road delays, and have greatly reduced their operating costs.

See your nearby Firestone Service Dealer or Service Store today and equip your fleet with a new set of Firestone Truck Tires. Have him install a new Firestone Battery and a new set of Firestone Spark Plugs—Reline your brakes with the new Firestone Aquapruf Brake Lining. Firestone extra value products will save you time and money.

Specify Firestone Tires and Rims on Your New Trucks

NRA

FIRESTONE TIRES WILL REDUCE *Your* OPERATING COSTS

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In Sets, Rolls or Any Other Form

AMERICAN BRAKEBLOK

Performance is the Same

FLEET OWNERS can obtain AMERICAN *Brakeblok* in any form—in Sets, Rolls or heavy-duty Brakebloks—with the knowledge that the performance will be the same regardless of the type of installation.

AMERICAN *Brakeblok* sets are formed to proper drum size and width, ground to correct thickness, then cut to exact length and chamfered. The Sets are available for installation on practically any car.

AMERICAN *Brakeblok* is a dense, homogeneous solid formed under great pressure, thoroughly heat-treated and accurately ground to size. In addition to Rolls, Car Sets, and Axle Groups it is supplied in Keeper-Type and Bolt-On Full-Coverage Brakebloks.

In any form AMERICAN *Brakeblok* can be depended upon to give quicker, smoother stops—to wear longer and with much less adjustment. That AMERICAN *Brakeblok* makes a notable reduction in brake maintenance expense is proved by the cost records of some of America's largest fleet owners. Write for information about AMERICAN *Brakeblok* for any type of installation in which you are interested.

AMERICAN BRAKEBLOK CORPORATION
4660 Merritt Avenue, Detroit, Michigan
New York, Cleveland, Chicago, St. Louis, Los Angeles, San Francisco
A Division of **American Brake Shoe and Foundry Company**

AMERICAN BRAKEBLOK
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Say "I saw it in FLEET OWNER"—It Helps!

VOL. 12
NO. 6

The FLEET OWNER

JUNE
1934

DEVOTED TO THE BETTER OPERATION AND MAINTENANCE OF TRUCK, TRAILER, BUS, TAXICAB, PASSENGER CAR, AND ALL AUTOMOTIVE FLEETS.

Stripping *the* Thread » »

(The Editor's Column)

Breathes there a man with soul so dead,
Who never unto himself hath said,
When on a bolt, he stripped the thread:
"*= %x ')z**= v¼"*'#"**=

TO RETREAD OR NOT?

● Requests for data on the practicability of retreading pneumatic tires have brought forth the interesting facts appearing on page 36 of this issue. They come from a fleet man who "knows his stuff" and who has given retreading more than a mere trial. We can draw three conclusions from it, which are: *know* the past history of the tire; give it a *careful* inspection; do not retread unless *all* conditions are favorable. By using oversize tires in the first place, the carcass will be more likely to warrant a retreading job, than if a standard size were used. Don't get the idea that we are advocating retreading to any great extent. We're simply giving a short resumé of the subject here, in the hopes that a few more operators will write us *their* experiences in this connection.

●

NO SELF-MAINTENANCE HERE

● The much-mooted question of whether to do your own maintenance work, or to have it done by local vehicle dealers, factory branches or independent service shops, is with us again this month, in the form of a very frank and candid discussion by "A. Maintenance Man" (which is not his name, of course) appearing on page 19 of this issue. You'll find our comment on that page, too; so as far as this page is concerned, we'll just "skip it." Although we're strong for self-maintenance, personally, it's only fair and just to weigh both sides of the story and in this connection we want to state that it seems *decidedly* better to farm out *all* maintenance work, in *many* fleet operations. Since no remark seems complete without an actual example, here's one "for the book." One of our leading bus operators, engaging in interstate transportation of passengers, primarily between Cleveland and New York, uses buses of one make only. Instead of having garages scattered throughout this extensive operating territory, he has a very satisfactory arrangement with the bus maker, who has factory branches in many of the principal cities through which these buses run. Service work, both large and small, is performed by the manufacturer, at his various branches, with the exception of *very minor* adjustments, which the drivers themselves are able to make. In fact, it has been said that no matter where a bus should break down, it will always be within reasonable towing distance of one of the factory branches. In the face of facts like these, wouldn't we be short-sighted to urge every fleet operator to do all of his own maintenance work—wouldn't we, huh? When we run across other interesting examples that are unusual, rest assured that we'll squeeze in at least a few words about them. And if you have any comments on this subject, you'll write us a line, won't you?

●

AN UNPLEASANT SUBJECT

● While speaking about buses, we are reminded of the seemingly numerous bus accidents which have appeared in newspaper headlines of late. We're not much on keeping statistics, but know that too many of these will not be good for the industry. Bus operators, and we mean most of the good ones, are straining every effort to conduct safe operations. They are training their drivers intensively and are maintaining their equipment to high standards. We have done a goodly amount of bus riding, even to the extent of cross-country trips, and what we've seen of it is excellent, from *any* angle. But, regardless of good *brakes*, there always will be bad *breaks*. We'd say that it is the latter, that recent accidents can be attributed to. We hope they will not continue. Glaring newspaper headlines and biased legislators can do a lot of damage to the industry, so let's see if this accident epidemic can't be curbed somewhat, before it gets worse. Truck operators can help, too. A parked truck, half on and half off the highway, can be the *cause* of such accidents, as evidenced in the recent Ohio catastrophe. The brothers in the truck department will kindly take note. And let us stop right here before this begins to look like a sermon; for ours are not the duties of a preacher, you know.

●

RE SYNTHETIC ENAMELS

● Elsewhere in this issue is an article on synthetic enamels which yours truly has "prepared" as a direct result of field contacts and more particularly his attendance at a "synthetic clinic" recently held. There seems to be some little disagreement on the question of drying time; also on the age-old controversy of whether or not they should be applied thickly or thinly. With so many different makes of enamels on the market, it is difficult to set up an arbitrary rule and have it cover the various paints put out by everybody and his brother. So what? So if we are wrong on the drying time of the particular make you are using, you'll just skip that part of it, won't you? And if you are in doubt as to whether to spray thin or thick, just be guided by the old American custom of thin coats and lots of them. But don't be like the fellow who religiously followed the directions on the can and prepared himself for the painting operation by donning three overcoats. Just because it said on the can, "For best results put on three coats." In all seriousness, we believe you'll find the article interesting. And if there is anything in it that does not sound according to Hoyle, to you, we'd be glad to hear about it.

Operating and Maintaining a Bakery Fleet

By Morris Cohen,
Industrial Engineer, Schulze Baking Company, Kansas City, Mo.

Part II • Outlining Our System of Cost-Keeping, Including Our Typical Automotive Operation and Maintenance Practices

BEFORE attempting to discuss our cost-keeping system, it might be well to refer you back to the May issue of this publication. On pages 14 and 16, both sides of our form entitled "Salesman's Daily Report on Automobile" were shown.

When a truck comes in from the route, the salesman fills out this card, on which he reports anything that he may think is the matter with the truck. If he hasn't anything to report, he just signs his name on the card. On this card is also recorded the truck number, the speedometer reading, and the amount of gas and oil put in. If repair work is necessary, the mechanics show the time and the parts put in on that particular truck, showing it on this card. In that way practically all of the time, parts, gas, oil, etc. is accounted for, and each truck carries only its own expenses.

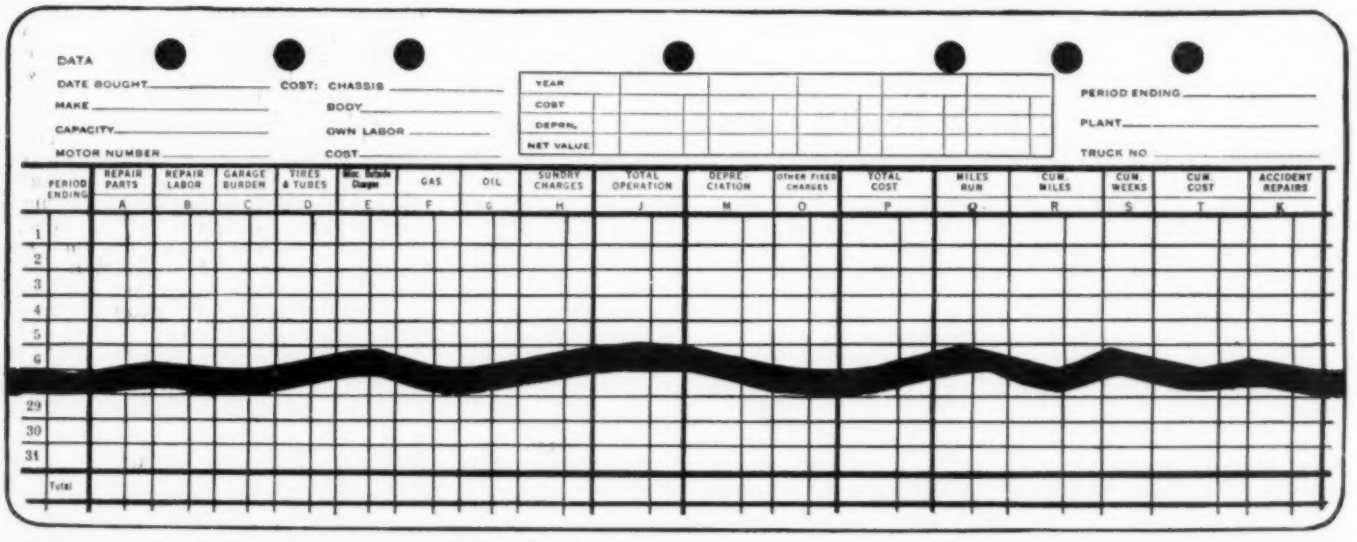
These daily truck cards go to the plant office where they are recapitulated. Every four weeks the "recap" is sent to the General Office Accounting Department. The Accounting Department ties in these reports with the general account so that we get an accurate story of costs. At the General Office Accounting Department depreciation charges and fixed charges are made against each truck, and a 4-week period report is made on a specially designed form for this purpose. A copy of this form is then sent back to each plant for the plant manager's and garage foreman's information.

In order to make our system entirely clear, we have reproduced this form at the bottom of this page. In analyzing it, the first item we see is "Repair Parts". I have already mentioned something about repair parts in connection with our maintenance plan. All repairs to trucks, except body repairs and paint, are grouped under this heading. We try to anticipate repairs by using a periodic inspection and adjustment schedule, a copy of which appears on the second page of this article.

In the last two or three years we, like every one else, made fewer replacements and found it necessary more than ever to have a systematic inspection and adjustment program. Each item is checked off as the inspection is made and when completed this report is mailed to the writer.

At first when we started this inspection and adjustment, we did not have these reports mailed in, but we found that that plan had to be changed. Unless there is a constant follow-up, the maintenance crew is likely to feel that it has no time for periodic inspection and adjustment.

We do not follow the policy of replacing slightly worn parts with new parts. If we think that there is some more service in a part, we leave it in the unit. Just when parts should be replaced or when they should be left in the truck is something that we have to leave to the mechanic's judgment. We have no definite rule on this subject, except that we tell each maintenance crew that we want to be sure that there will be no breakdowns on the road, and we want to be sure that we do


DATA
DATE BOUGHT _____ COST: CHASSIS _____
MAKE _____ BODY _____
CAPACITY _____ OWN LABOR _____
MOTOR NUMBER _____ COST _____
YEAR | COST | DEPRN. | NET VALUE
PERIOD ENDING _____
PLANT _____
TRUCK NO _____
PERIOD ENDING (1) | REPAIR PARTS A | REPAIR LABOR B | GARAGE BURDEN C | TIRES & TUBES D | Misc. Vehicle Charges E | GAS F | OIL G | SUNDRY CHARGES H | TOTAL OPERATION J | DEPRECIATION M | OTHER FIXED CHARGES O | TOTAL COST P | MILES RUN Q | CUM. MILES R | CUM. WEEKS S | CUM. COST T | ACCIDENT REPAIRS K
1 2 3 4 5 6 29 30 31 Total

This is the cost recapitulation form that Mr. Cohen refers to in the accompanying article. On reading it, you'll find that he explains each column in detail and also elaborates to a great extent on some of the particular maintenance practices which his firm follows, believing that other fleet operators will find them of interest.—H. C. F.

RECORD LOW-COST-PER-MILE

A healthy man must have a healthy backbone. This Pyro-Action Plug has a healthy spinal column—the oversized center electrode. COMPARE IT WITH THAT OF OTHER MAKES.

with this NEW HEALTHY PLUG

ANYBODY can claim economy. We are prepared to prove it with this new Pyro-Action Spark Plug—designed by Robert Bosch, A.-G., world's oldest plug manufacturer.

This new Pyro-Action Plug has an entirely new insulator, a synthetic product that far surpasses natural materials in resistance to high temperatures.

The electrodes are made of a special alloy which has unmatched ability to resist corrosion.

The center electrode is oversize. The construction of the ground electrode is unique, enabling you to adjust the spark gap without danger of breaking off the electrodes.

This combination of advancements in design and materials presents definite operating economies:

Reduced Replacements—the life of the plug is remarkable!

Low-cost-per-mile even under the new, more severe conditions of modern heavy duty engines.

Greater protection than you have ever had against balled up schedules, caused by road failures of spark plugs.

Substantial savings—when properly selected—in inspection, servicing, and maintenance costs.

Correct selection simplified by a radical reduction in the number of plug types, and a widening of the heat range of each type.

Even in a single bus or truck this lower-cost-per-mile dependability would be important. Multiply it by the number of vehicles you operate and the number of miles per year they average, and the economies may well run into thousands of dollars annually. Ask the nearest representative to show you how you can break your own cost-per-mile records with Pyro-Action Spark Plugs.

UNITED AMERICAN BOSCH CORP.
Springfield, Mass. - - New York, Chicago, Detroit

The American-Bosch organization has always taken pride in creating, designing, building and selling only products that are superior to those commonly in use. Proven leaders in their fields, they are built up to a high standard of quality and not down to a price.

Pyro-Action

the HEALTHY Spark Plugs

LICENSE ROBERT BOSCH A.-G.

A "HOW-WE-DO-IT" ARTICLE (*Continued*)

not waste money by throwing away parts that are still good.

From time to time I have seen discussions in this journal on the subject, and as far as I could see there is no definite standard or scale by which we could tell the mechanics that after a certain clearance, or after a part is worn to a certain point, it should be replaced. So, as said before, we depend entirely on the judgment of the garage foreman and the mechanics.

In view of this, the garage foreman and his mechanics, of course, play an important part in the cost of operating the fleet. We have tried to develop good mechanics in each garage and to keep them interested in their work. The writer visits each garage every so often and gets a chance to see how the mechanics work, but the real test we go by is an inspection of the fleet when visiting each particular garage, and the results of the fleet shown in the periodic costs. By inspection of the fleet, I mean driving each truck and seeing how it is mechanically and how it is in appearance.

The next item is "Repair Labor," or payroll. Our experience has shown that it takes an average of one man to handle ten to twelve trucks. By handling, I mean maintenance work as well as putting in gas and oil, washing and greasing, etc. It might be interesting to mention that about 40% of the total time of the maintenance crew is put in on items such as putting gas, oil, or water in the trucks, washing, greasing, etc. This is an interesting thing to remember when comparing labor costs on new and old trucks. There is a certain amount of work to be done regardless of whether the truck is old or new. In studying the effect of age of equipment on repair costs, it is usually found that the cost of repair parts goes up much more rapidly as the trucks get older than does the cost of repair labor. This factor of 40% maintenance regardless of whether the trucks are new or old, is one of the chief reasons for that.

Most likely every fleet operator's cost of repair labor has gone down in the last two or three years. The recent national custom of cutting wages, was chiefly responsible for that. To actually reduce labor costs without cutting wages in a fleet is not as simple as the cost curves would indicate. For example, in this unit of 60 trucks I am mentioning, there are only three mechanics. To eliminate one mechanic would mean a reduction of 33 1/3% of the repair crew. Something radical in the policy or in the size or type of the equipment would have to be done in order to make a big reduction in the crew. This also is a factor when considering the cost of repair when the subject of truck replacements comes up. Where there is a definite maintenance crew, the replacement of a few old trucks with new ones does not change the amount of work enough to warrant the change in the payroll. However, this does not mean that once a maintenance crew is developed for a given number of trucks, that improvements in that crew cannot be made. Most likely nearly every fleet operator can think of changes that have been made to reduce the number of maintenance men per given number of trucks, without lowering the standard of maintenance.

So far as the efficiency of the maintenance crew is concerned, the problems are not much different from those of any other group or organization. Each man must know what he is supposed to do, how he is supposed to do it, and then do it. We try to pass on to the local men any information that may be of value. Each foreman is kept fully informed of the cost of each truck in his fleet. Each foreman is kept informed of methods and costs that exist in other fleets, that may be of benefit to him. Information regarding costs, appearance of fleet and accidents is also carried to the plant management and to the sales department. The men who drive the trucks are an important factor in the scheme of maintenance. In some plants, route profit-and-loss statements are gotten up, in which the individual salesman's truck costs are pointed out among the important items of expense on that particular route. Contests on gasoline mileage and careful driving are held from time to time. In general, we try to keep the salesmen interested in their equipment.

The next item, "Garage Burden," is the difference between the costs reported by the garage and the costs accounted for in the general office. It is practically impossible for the garages to account for every penny and every minute spent, so we show these unallocated ex-

(*Please turn to page* 18)

Schulze Baking Company,
Kansas City, Mo.

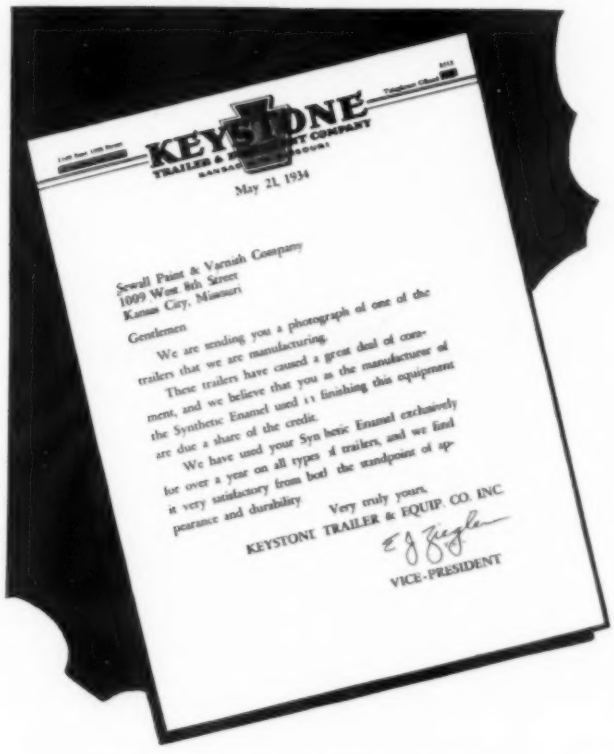
INSPECTION AND ADJUSTMENT SCHEDULE

1. Clean engine, transmission, and under-side of hood.
2. Replace spindle-bushings and pins if badly worn. Adjust drag-link, worm-and-sector, pitman arm, steering-rod ends; tighten column at dash and frame; align wheels.
3. Check springs for broken leaves and tie-bolts; tighten U-bolts.
4. Tighten rear axle-shaft nuts.
5. Tighten drive-shaft flange bolts, universal joints, torque tube, radius rods, and drive housing.
6. Check oil pressure gauge (Fords, check at plug).
7. Adjust clutch-pedal clearance and release spring.
8. Check battery cables, supports, and hangers; clean terminals, fasten battery securely in carrier.
9. Check all lights; polish reflectors. Repair un-insulated wiring and loose wiring.
10. Tighten cylinder-head bolts.
11. Clean and adjust ignition points; check coil, condenser, and timing.
12. Adjust spark plug electrodes; replace decomposed wire.
13. Check water manifold, hose connections, radiator, and pump for leaks.
14. Adjust fan and belt.
15. Clean gas line, strainers, traps, vacuum tank, and gas tank.
16. Clean spray nozzles; check butterfly shaft for wear; set float, and adjust carburetor.
17. Check gasoline system for leaks.
18. Check valve clearance.
19. Tighten motor suspension bolts.
20. Check starter and generator brushes. Clean commutators, Bendix, and check charging rate.
21. Tighten bolts that hold body to chassis and dash; check hinges, locks, stops, roof, molding, etc.
22. Tighten, straighten, and paint fenders, front and rear bumpers.
23. Adjust and equalize brakes; reline if necessary. Tighten hub bolts when relining.
24. Check motor base, crank case, valve covers, and oil lines for leaks, and repair or re-gasket if necessary.
25. Check governor for speed.

And here is Shulze Baking Company's Inspection Report form. This inspection and adjustment is made every eight weeks for country trucks, and every twelve weeks for city trucks.

REFINISHING COSTS CUT IN HALF

Read what Mr. E. J. Ziegler of the Keystone Trailer & Equipment Co., Inc., says:



KEYSTONE TRAILER & EQUIPMENT COMPANY

May 21, 1934

Sewall Paint & Varnish Company
1009 West 8th Street
Kansas City, Missouri

Gentlemen:

We are sending you a photograph of one of the trailers that we are manufacturing.

These trailers have caused a great deal of comment, and we believe that you as the manufacturer of the Synthetic Enamel used in finishing this equipment are due a share of the credit.

We have used your Synthetic Enamel exclusively for over a year on all types of trailers, and we find it very satisfactory from both the standpoint of appearance and durability.

Very truly yours,
KEYSTONE TRAILER & EQUIP. CO. INC.
E. J. Ziegler
VICE-PRESIDENT

DURAL SEWALAC SYNTHETIC ENAMEL

—the perfect finish for all surfaces where a high gloss, elastic finish is wanted

Time means money . . . And under the new Sewall System utilizing our new Sewalac Spraying Enamel applications can be speeded up, and a two day job can be done in one.

IDEAL FOR TRUCKS AND BUSES

Following our recommendations, and employing Dural Products, a painter refinishing a truck or bus can save several hours because of our quick drying oil undercoat. More time can be saved by our system because of quick drying features of Sewalac Synthetic Enamel—making it possible to apply *all* coats in *one* day.

Finish dries with hard, high luster closely resembling porcelain. The resplendent finish will please the most critical—and will hold its gloss, month after month, even though exposed to all climatic conditions.

NOTE THESE FEATURES

1—Available in 40 popular colors. Also in black, white and clear.
2—Dries out of dust in 20 minutes, and hard in one hour.
3—Can be applied over paint, varnish, baked enamel, lacquer, wood or bare metal.
4—Hides perfectly in one coat.
5—No primer or surfacer is necessary.
6—Dries with a high luster, and is as durable as baked enamel.
7—A perfect finish for Trucks, Buses, Wheels, Boats.
8—Cuts refinishing costs, labor and material more than 50%.
9—No special spraying equipment is necessary.
10—Your colors matched exactly without extra cost.

AVAILABLE IN 40 COLORS

Plan now to refinish your next job under the Sewall System—and you'll be amazed how much further Sewalac goes—how much faster it dries—and how much better the completed job looks.

ORDER THROUGH YOUR JOBBER

If He Can't Supply You, Write Us.

Color Cards Upon Request.

KANSAS CITY, MO. **SEWALL PAINT & VARNISH COMPANY** DALLAS, TEXAS

Say "I saw it in FLEET OWNER"—It Helps!

KEEPING COSTS *in a* BAKERY FLEET (*Continued*)

penses as garage burden. This cost amounts to about 3% of the total costs. Garage Burden also includes garage supplies, such as sponges, brushes, small tools, etc.; and maintenance of the garage buildings, and shop equipment, and garage rent.

The next item is "Tires and Tubes." It includes all costs of new tires and tubes and all repairs. When a new truck is purchased, the tires and tubes are capitalized with the truck, but the spare is charged to expense. We carry spares on trucks that run on country routes, and leave them off trucks that run in the city. The main thing we watch on tires and tubes is inflation. Every tire is checked once a week. Tires showing abnormal air leakage are taken off and repaired. In some garages our own men do this weekly check-up and in others this is done by the tire dealers. Since one of the jobs in the periodic truck inspection calls for wheel alignment, brake adjustment, etc., we have a minimum of tire waste on that account.

Tire costs are influenced by four factors: (1) price and quality of the tires; (2) maintenance; (3) seasonal weather conditions; and (4) truck replacement program. The fleet operator, I believe, has nothing to complain about the trend of price and quality of tires in recent years. The tire companies have also been a help in improving tire maintenance. In regard to seasonal conditions, it is a fact that repairs and tire replacements are greater in summer than in winter. The effect of heat is shown here quite definitely. Our truck replacement program is a factor, because the cost of tires on a new truck is not shown as tire expense. Also wheel alignment on new trucks is better than on old, resulting in less tire wear.

We try to fit the tires for the loads they are to carry, but quite often we may have the same size tires on the front as we carry on the rear wheels, so that only one spare tire would be required for all four wheels. Sometimes one spare tire can be carried for two sizes, providing the difference in size between the front tires and the rear is not too great.

On some of the trucks we have larger rear tires than is necessary so far as tire wear is concerned. This is done sometimes to change the ratio between motor speed and truck speed. On country routes where we maintain 40 to 45 miles per hour on the trucks, we sometimes cut down the motor speed by putting on larger tires than the truck ordinarily is supposed to use. Of course, a change in the rear axle gear ratio accomplishes that, but sometimes we don't want to go to the expense of doing that or we don't want to make enough of a change in the speed to go into changing the gears. In that case, we just get a slight reduction in the motor speed by putting on larger tires. Of course, the amount of engine speed reduction that can be accomplished by a tire change is rather small, but it does help in operating costs.

You probably know that the difference in the overall dimensions of a tire is not proportional to the size of the tire. By size I mean the designation of the tire. For instance, the difference between a 5.50-20 and a 6.00-20 in the overall dimension is approximately a half inch, while the difference between a 6.00-20 and a 6.50-20 is 1-2/10 inches. The change from a 5.50-20 to a 6.00-20 would reduce the motor speed by 1½%, while the change from a 6.00-20 to a 6.50-20 would reduce it by 3.7%. Also a change in the tire from a 6.50-20 to a 7.00-20 will reduce the motor speed by 3.6%. We have made some changes where a 6.00-20 tire was replaced by a 7.00-20, and thereby reduced the motor speed by 7.3%.

RECAPITULATION OF DAILY TRUCK RECORD STOCK _____ PLANT

FOR THE 4 WEEKS ENDING _____ 193__ TRUCK NO. _____

Form A-5-42E—10-33

Day	Tires & Tubes	Motor & Chassis Parts & Repairs	Misc.	OWN LABOR: Washing & Greasing	OWN LABOR: Truck Repairs	REPAIRS TO BODIES: Own Labor	REPAIRS TO BODIES: Own Material	REPAIRS TO BODIES: Outside Charges	PAINTING: Own Labor	PAINTING: Own Material	PAINTING: Outside Charges	GASOLINE USED: AT PLANT Gals.	GASOLINE USED: AT PLANT Amt.	GASOLINE USED: OUTSIDE Gals.	GASOLINE USED: OUTSIDE Amt.	OIL USED: AT PLANT Qts.	OIL USED: AT PLANT Amt.	OIL USED: OUTSIDE Qts.	OIL USED: OUTSIDE Amt.	GREASE USED: Lbs.	GREASE USED: Amt.	Mileage
Account No.	411	416	420	401	401	401	427	433	401	429	430		413				414				402		
Symbol—A6	D	A	E	Hr.	B Amt.	Hr.	B Amt.	H	H	H	H	H	H	H	H	F	F	G	G	G	H		Q
1																							
2																							
3																							
4																							
5																							
6																							
7																							
8																							

Here is another "recapitulation form" used by the Schulze Baking Company of Kansas City. This form is 31 lines deep, so that an entire month will appear on one side of the sheet. Each sheet, of course, covers one truck only. Practically all operating and maintenance charges can be entered on it, you'll observe.

The next item on our cost recapitulation sheet is "Gasoline." Here we have the largest single item of expense in our fleet. This item is affected chiefly by the following factors: price; the salesman or driver; the miles covered per day; the condition of the truck, especially ignition, carburetor, brakes, etc.; the size of the truck, particularly the motor; and the condition of the roads. The load carried is a factor but bread is a bulky product and the item of live load is not as important as it is in other lines.

In regard to price, I might say that in gasoline we are not interested in the highest grade as we are in some other materials. We believe that price is the most important factor here and operate accordingly. I mentioned before that we have gasoline mileage contests among salesmen, etc. Quite a big waste can occur if the salesmen fail to shut off the motor when the truck is not moving, so we follow this up constantly.

We have experimented with some devices that shut off the motor when the driver gets out of the cab, and we have come across one recently that seems to be good. We use this device only in unusual cases where supervision does not seem to be able to put over

(*Please turn to page* 52)

AND UP · F. O. B. DETROIT

FEDERAL
today's greatest truck value in any capacity
FEDERAL
STANDARD CHASSIS WITH FULL FLOATING AXLE AND HYDRAULIC BRAKES
$645
AND UP • F. O. B. DETROIT

There's a Federal Truck of Correct Capacity Equipped to Fit Your Business

HEAVY-DUTY truck construction throughout and a long list of quality features, included at *no extra cost*, combine to make Federal the market's greatest dollar-value in *any* capacity! Federal trucks, built by a company with 25 years of truck manufacturing experience, are *All-Truck*. Every part is engineered and built with the extra measure of stamina required for truck service.

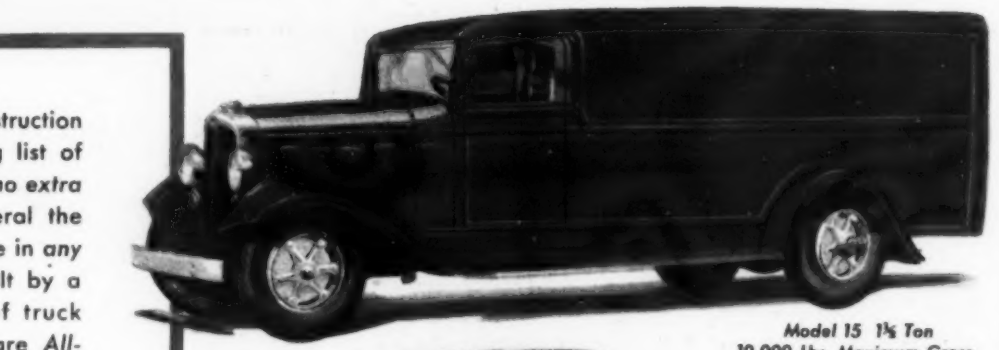
Every Federal is powered with a 6-cylinder, 7-bearing *genuine truck engine*. Four-wheel hydraulic brakes and full-floating axle are standard equipment. Long life and low-cost-per-mile have been combined with outward beauty and every possible contribution to driver comfort.

You will find in Federal's complete line of trucks—4 and 6 wheelers—from 1½ to 7½ tons, a chassis in *any* capacity to fit exactly *your* own individual requirements. Cab and body equipment, built to *your* specifications, in our own body shops, assures an accurately balanced complete transportation unit.

Learn about the exceptional truck values Federal has to offer. See the Federal dealer before you buy.

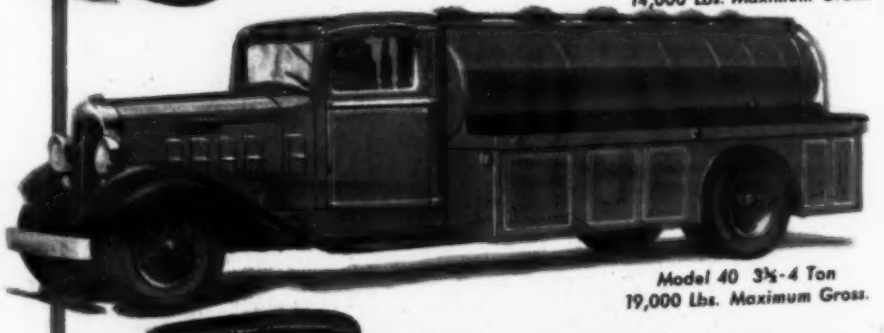
FEDERAL MOTOR TRUCK CO.
DETROIT

CANADIAN FACTORY: FEDERAL TRUCK CO. OF CANADA, LTD., WINDSOR, ONTARIO



Model 15 1½ Ton
10,000 Lbs. Maximum Gross.

Model 25 2½ Ton
14,000 Lbs. Maximum Gross.



Model 40 3½-4 Ton
19,000 Lbs. Maximum Gross.

Model 21 3 Ton 6 Wheeler
15,000 Lbs. Maximum Gross.

FEDERAL

More *about* Self vs. Outside Maintenance

By A. Maintenance Mann,

(Who is Manager of a 20-Vehicle Truck Fleet in Connecticut)

Editor's Note:

● The ball is still a'rolling. That highly controversial subject, "Self vs. Outside Maintenance" is still with us. Here's a frank expression of opinion by a fleet manager who has a job and believes, deep down in his heart, that he shouldn't have it. Not that he has an inferiority complex, but he really thinks that his particular operation should depend on outside service stations for maintenance. We do not agree with him, but since we do not dictate the editorial policy of this publication (that's your job), it behooves us to publish it. And publish it we will. Here it is.—H. C. F.

AFTER reading "The Editor's Column" on page 13 of the January issue of FLEET OWNER, I would like to get several thoughts off my chest, in the form of these few paragraphs, which I think every progressive fleet maintenance man will find interesting and somewhat controversial. At least these few ideas on the subject should serve to keep the ball a'rolling.

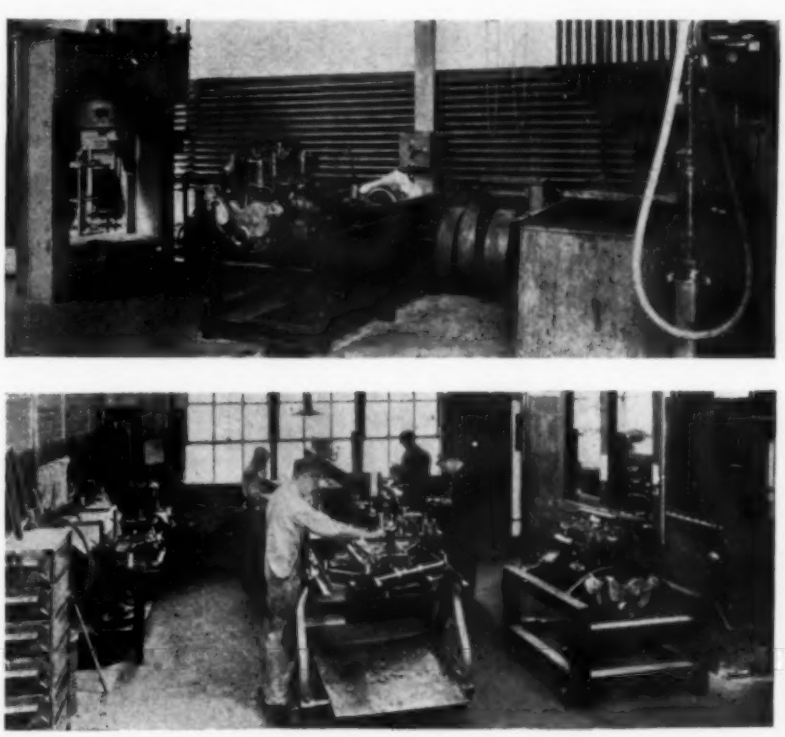
It was my privilege, also, to attend the debate, in which the resolution, *"That Self-Maintenance of Fleets Assures the Maximum Efficiency"* was discussed, pro and con. We (all of us) also have had the opportunity of reading both sides of this question, on pages 24 and 25 of the February issue of this publication. Now that we know what it's all about, let's go on with the discussion.

It was again my privilege to recently inspect very thoroughly the shops of Motor Haulage Company, Brooklyn, N. Y., and also to analyze their maintenance methods. This experience confirms what I believe all who see it must realize, i.e., that the Motor Haulage operation is the *exception*, and not the *rule* in fleet operation. Their plant, equipment and personnel are far above the average, and Mr. Lyon (their manager) is a *real* maintenance executive, and a salesman in the bargain.

If, however, we were to go into the *average* self-serviced fleet garage as a working mechanic, we would, I believe, realize that self-maintenance in general is not what Mr. Lyon believes it to be. It is something entirely different.

As an example, Mr. L. V. Newton, in an article covering fleet operation, appearing on page 14 of the June, 1933 issue of FLEET OWNER, states that one mechanic and a helper, working 45 hours per week each, can maintain a fleet containing twenty vehicles. I have tried to do this with a similar sized fleet, and after doing so, can assure you that for a small fleet this type of service, for many reasons, is far more expensive than vehicle manufacturers' service to the fleet owner.

It is my belief that at least 75 per cent of self-service by fleets could *and should* be done away with. Motor vehicle operators, as a rule, do not and *will not* provide proper service if left to their own devices. The reasons are entirely too numerous to state here in full; in fact many of them are self-evident.



Two views taken in the Motor Haulage shops. At the top is shown a home-made engine running-in stand. The lower view is a corner of the engine rebuilding shop. This is the fleet operation referred to by the author of this article as the "exception" and not the rule. We don't agree with him; do you?—H. C. F.

Again referring to the article by Mr. Newton; he tabulates a list of fleet shop equipment, showing, among other size fleets, a list of equipment necessary for a 20-vehicle fleet. It will have been noted, of course, that the equipment and tools recommended for a 20-vehicle fleet are fewer in number and smaller in size than those recommended for a 100-vehicle fleet. A small air compressor as against a large one, etc.

With reference to the use of compressed air, we believe that for inflating tires, cleaning parts, etc., the same pressure and

(Cont. on page 53)

100,000 Miles *with* No Major Repairs

By F. C. Fiechter,
Fleet Manager, John Wanamaker, Inc., Philadelphia, Pa.

How This Seemingly Impossible Feat Can Be Accomplished By Adhering To Certain Preventive Maintenance Schedules

LAST month we outlined the results of our findings in connection with a truck that we had operated over 100,000 miles. The conclusions arrived at, as a result of this investigation, were that the present-day truck chassis can be operated for at least 100,000 miles without repairs or replacements, extensive overhauling or major repairs, with the exception of valve grinding every 30,000 miles, providing that all of the following operations are given attention:

1. It is recommended that when a new chassis is purchased, all parts enumerated in the foregoing paragraphs (also in last month's article) should be rust-proofed; that every pin, bolt, clevis and other small moving part be coated with graphite and light body grease before using the vehicle.

2. Motor pan or crankcase should be dropped and thoroughly cleaned; main and connecting-rod bearing caps should be removed and examined for obstructed oil grooves and scoring; vital parts of outside units should be rust proofed; periodic adjustments should be made in spring shackles; hydraulic brake systems should be flushed every forty thousand miles; motor oil should be changed every 500 miles; filter cartridges renewed every ten thousand miles; fuel-air ratio should be checked every seven or eight thousand miles; spark plugs should be changed or cleaned and adjusted every ninety (90) days; and chasses should be lubricated every two (2) weeks. (On the removal of 25 motor crank cases, in 21 were found metal chips; 9 bearings were found to contain contamination. In one instance an oil pump was found improperly assembled. Does it not seem obvious that some of these motors would have failed?)

3. Cylinder heads should be removed in order to examine valves and cylinders; studs and nuts should be graphited upon reassembling. After a motor has been operated a short time, the cooling system should be drained and thoroughly flushed in order to remove all scale and sand. Where motors have water jacket covers, these should be removed to clean sand and sludge in chamber.

4. After brake assemblies have been torn down for rust-proofing of parts, the brake shoes, inside face of drums and shields should be wire-brushed and painted with a heat resisting aluminum paint.

In operation, the following should be taken care of regularly:—

1. Crankcases should be drained regularly at a predetermined mileage; oil filters should be cleaned each time oil is changed, except in the renewable cartridge type; renewals should be made **not** as specified by the manufacturer but as occasion requires, depending upon the quality of oil used and the kind of work done by truck, also the conditions under which the truck is operated.

2. It is advisable to change the lubricant in transmissions and differentials at least every 10,000 miles; also to flush out these units at time of change.

3. Chassis should be lubricated twice each month in large fleets; to do so on a mileage basis is too complicated.

4. All parts requiring oil-can lubrication should be lubricated once each month, using a medium oil in summer and a light grade in winter.

5. Cooling systems should be flushed under pressure and with reverse flow, each spring and fall.

6. Air cleaners should be cleaned regularly, schedule for which depends upon location and conditions under which the motors operate.

7. Spark plugs should be removed, cleaned and adjusted at least every three thousand miles. If convenient, clean spare plugs should be made available in order to save time. This feature reduces ignition troubles and increases gasoline mileage to an unexpected degree. It shall be found that minor adjustments of carbureters are required at each inspection.

(*Please turn to page* 53)

THE WANAMAKER GARAGE
Repair Card

Date .....

Car No. .....should be given attention as follows:

Driver's Name

Name of Mechanic Doing Above Repairs

Any mechanical trouble must be noted on this tag, and the tag must be placed on the rack provided for the purpose.

This Driver's Report Form is instrumental in minimizing major repairs. By getting at little troubles before they become big ones, many repair jobs are averted.

Can You AFFORD any other type Valve Seat Grinder?

HALL *ECCENTRIC* VALVE SEAT GRINDING METHOD Adopted by 22 Leading Car, Truck, Tractor and Airplane Manufacturers

Production accuracy, speed and finish as OK'd and adopted by 22 leading motor makers means no come-back jobs.

The ability to handle ANY Seat in ANY metal in ANY make of car or truck means no job lost because you couldn't handle it.

Higher Grinding Wheel speed results in a minimum of Grinding Wheel wear and freedom from Wheel breakage. It also eliminates the need for dressing Wheel but once for the average 8-cylinder block. This means less cost and more profit per job.

Considering these facts alone, can YOU afford to buy anything but the *ECCENTRIC* Valve Seat Grinder . . . Especially when it costs so few dollars more than other type Grinders?

If you can afford to experiment, try them all. If not, profit by the tests and experience of leading factories, large fleet operators and thousands of good mechanics in garages and service shops all over the world.

Get complete information on *ECCENTRIC* Valve Seat Grinding from your Jobber today. If your Jobber can't serve you, write the factory at once.

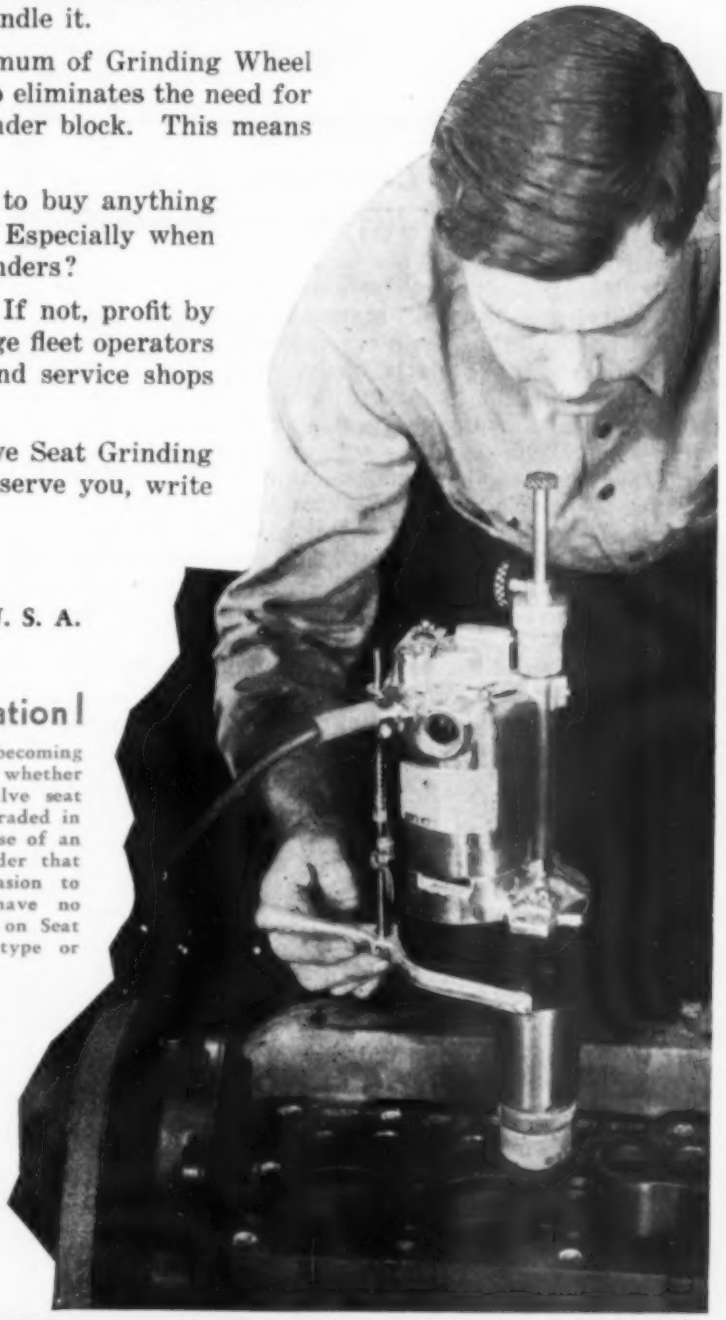
The Hall Manufacturing Co.
1620 WOODLAND AVE. TOLEDO, OHIO, U. S. A.
In Canada: Walkerville, Ontario

An Explanation!

So frequent is becoming the query as to whether other types of valve seat Grinders may be traded in toward the purchase of an ECCENTRIC Grinder that we take this occasion to advise that we have no trade-in allowance on Seat Grinders of any type or make.

Left: Grinder in Diamond Dresser Stand.

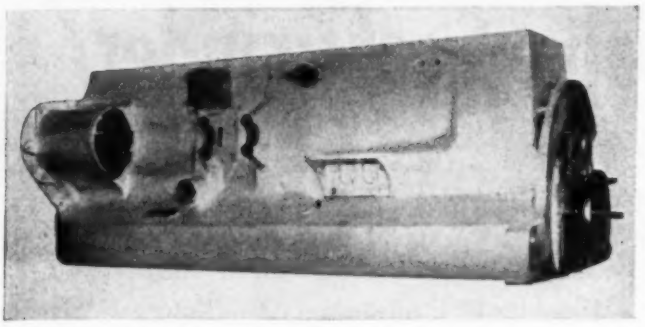
Right: Grinder in use on pilot in valve guide.



HALL *ECCENTRIC* Valve Seat Grinder

Say "I saw it in FLEET OWNER"—It Helps!

Farmed-Out Welding Jobs That Paid



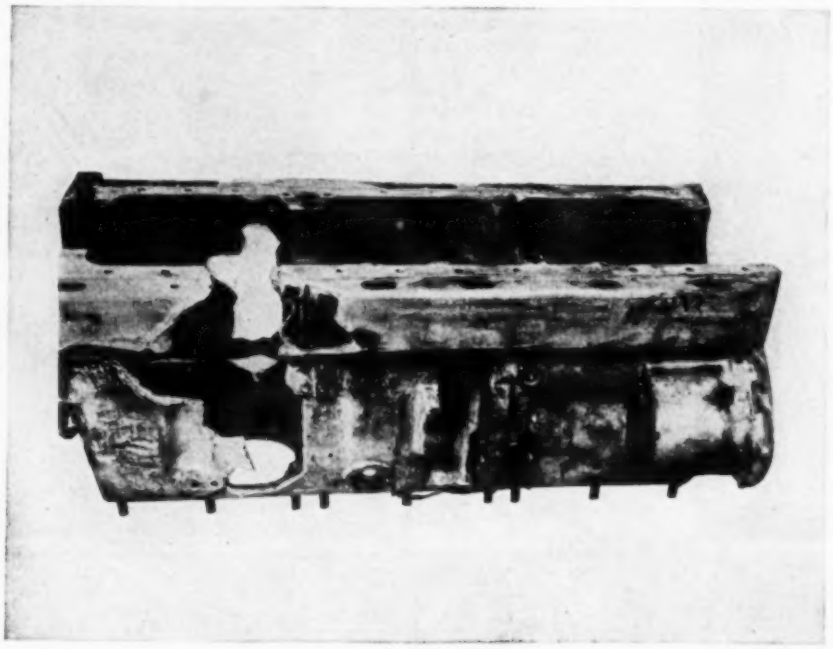
Aluminum Crankcases, Hopelessly Cracked, Can Be Salvaged Successfully, the Accompanying Experience Stories Prove

WHO wouldn't feel "down-in-the-mouth" on observing a "busted" crankcase such as is shown below, particularly if said crankcase belonged to one's pet tractor that regularly hauled one's biggest semi-trailer combination? And who wouldn't feel equally as bad, upon learning that a new crankcase would cost in the neighborhood of five hundred simoleons?

That is exactly how the operator of the unit illustrated below felt, and to say that the possibility of a repair, without replacement, looked rather hopeless to him, is but putting it mildly. For great jagged holes in a nice casting, are not, at best, a sight to cause rejoicing in anyone's mind, particularly if it is an aluminum job.

The welding shop, however, to which this trucking company had sent considerable work, offered a solution. The case was accordingly delivered to the shop with the instructions to do what they could with it. The welding shop proprietor did not feel quite as badly about this job as did the owner of the truck fleet. He saw great possibilities for a sound repair.

As a starter, all of the broken-out sections that came from one side of the case were put together and by means of the oxy-acetylene flame, were melted in carbon block forms to make two patches. Fourteen pieces were used to make two patches, one 10 x 18 in. and the other 10 x 5 in. These would just about fit the largest aperture in the aluminum case.



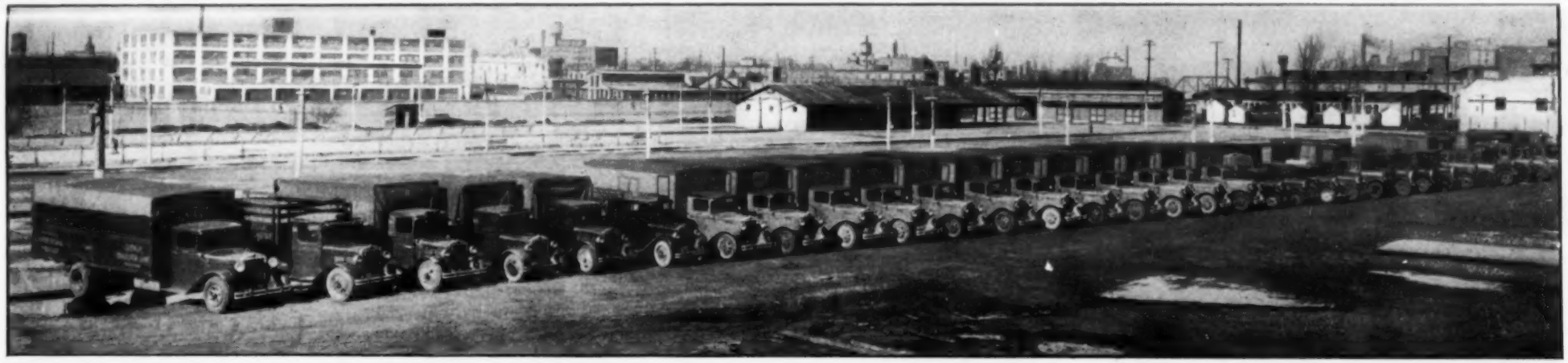
Aluminum welding put this crankcase back to work in a few days and saved the truck operator a high replacement cost. The one shown at the head of this article is typical of the appearance of a finished repair of this kind. This type of welding requires extraordinary skill and the fleet operator deemed it best to farm these jobs out to a local welding "expert."

There are several properties of aluminum which have to be well understood by the welder if a successful job is to be completed. The material conducts heat very rapidly and has a low melting point, melting suddenly and unexpectedly before it shows a red heat in daylight. It is also weak when hot, so that such a part as an aluminum crank case casting has to be supported so that it will not collapse during preheating and welding. Further, molten aluminum oxidizes rapidly, the oxide forming a thick, heavy scum over the surface of the metal. Excess oxide has to be removed during welding either by the use of a flux or by scraping with a steel paddle or puddling rod formed by heating and flattening the end of a ¼-in. steel welding rod.

Well knowing all this, the welders set to work to do a complete and careful job. They first cleaned the case thoroughly inside and out with gasoline to remove any oil or grease. All of the edges of the break were filed clean and bright as were those on the sides of the patches. The patches were then fitted into place, carefully lined up, and clamped lightly into position. The operators were careful not to use too great pressure in clamping, as this would be apt to cause a break while the case was preheated.

A fire-brick preheating furnace was then rapidly constructed, and the casting was blocked into posi-

(*Cont. on page* 54)



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Say "I saw it in FLEET OWNER"—It Helps!

Facts *about* Modern Synthetic Finishes

By H. Clay Fischer,
(Your Editor, Whose Favorite Subject is Paints)

By Attending "Paint Clinics" We Learn More and More About the Latest Developments • Here's a Generous Portion, Ready to Serve:

WHEN thinking of synthetic enamels, don't let the expression "synthetic" lead you astray. Because we have had synthetic eggs, synthetic complexions and synthetic (bath-tub) gin, many people will regard anything synthetic as being "substitute, artificial or inferior.' Paint manufacturers have adopted the expression "synthetic" because this family of finishing materials is a new development of the chemical laboratory. Just like synthetic rubber. And don't let anyone hear you say that synthetic rubber is not the answer to many a prayer.

Synthetic enamels and synthetic rubber are both excellent examples of what modern chemistry can do. It will be the purpose of this article to discuss the former from a practical standpoint, treating with such facts as the fleet man will find of intimate interest.

Synthetic enamels, as a family name, covers a wide range of materials, uses, grades and prices. The better grades of synthetics have been found ideal for the finishing of commercial vehicles, wood wheels, etc. They are *not* lacquer-base products, but are a new development in chemical processing, which, when properly made and applied, should produce an unusually durable film that dries quickly and leaves a high, lustrous gloss that requires no polishing or rubbing. This high gloss is said to be maintained during its effective life by normal washing, and to resist the effects of exposure to a remarkable degree.

This picture is placed here for two reasons. First, to break up what would otherwise be a solid page of type matter. Secondly, to remind you of the fact that a special "synthetic" spray-gun is highly desirable for best results with synthetic enamels. Or at least, you'll equip your present guns with special "synthetic" nozzles, won't you? You will find out why, after you read the accompanying article.

This type of finish can be applied over practically any *clean* surface, including metal, wood, composition board, old paint and lacquer. It is especially suitable (as you no doubt know) for refinishing commercial vehicles of all types and can be used for passenger car work. Perhaps it is the best material available at present for all types of automobile, bus and truck wheels, particularly those made of wood.

Synthetic enamels are quick dryers. Not as fast as lacquer but considerably faster than conventional oil-base enamels. Most of the popular ones will dry dust-free in about 15 or 20 minutes, tack-free in a few hours and hard overnight. Thus, refinishing schedules can be speeded up and a cleaner surface can be produced than with oil-base enamels, particularly where dust-proof facilities are not readily available.

And what about lacquer? some will ask. Which is the most suitable material for commercial vehicle refinishing? This is a question which many have asked and which many operators must decide for themselves. Naturally there are several factors which will dictate the final choice of refinishing materials. All of us know that lacquer produces a very durable and attractive finish on metal bodies, hoods and cabs. That it is not suitable for application on wood which is exposed to the weather, is a statement with which practically everyone will agree.

The application of lacquer can best be accomplished with spray equipment. It offers fast schedules, due to its rapid drying time, a clean finish free from dust, and if the surface is rubbed and polished, there is little question but that this is a splendid finish.

Synthetic enamels have become popular principally because they combine some of the better qualities of lacquer and oil-base materials. They are quick-drying. Not as fast as lacquer, but much faster than conventional oil-base enamels. They have met with much success because they may be used on all classes of vehicles and because of their rapid set-up, they produce a clean, dust-free surface and a high gloss without polishing. Then too, they can be applied on practically *any* clean surface, as pointed out in our third paragraph.

In order to acquaint fleet operators with the many advantages to be gained through the use of synthetic finishes, several of the paint manufacturers are holding "clinics" in various parts of the country, in which the subject is being discussed from all angles and many questions answered. It was at such meetings which the writer recently had the privilege of attending, that many of our thoughts on the subject have been acquired. We cannot urge you too strongly, therefore, to attend any such clinics that may be held in your vicinity.

Questions asked at these meetings seem to indicate that many fleet painters who might be experts in the application of enamels and lacquers, are not fully familiar with the newer synthetics. For this reason, it might be well to point out the major differences between synthetics and lacquers and suggest methods which have proven satisfactory in the application of various synthetic finishes.

(Please turn to page 26)

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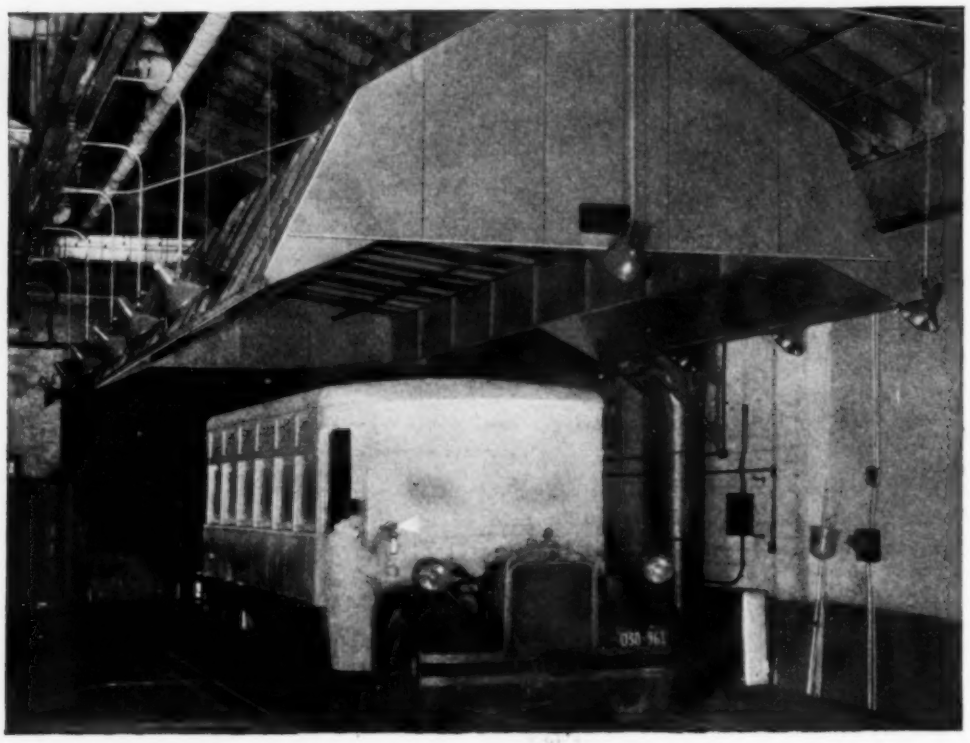
Say "I saw it in FLEET OWNER"—It Helps!

COMMERCIAL VEHICLE REFINISHING (*Continued*)

It should first be borne in mind that synthetic materials dry in an entirely different manner than lacquer. Lacquer dries by the evaporation of the solvent, this evaporation being quite fast. Synthetics, on the other hand, dry partly by the evaporation of the solvent and principally by oxidation. In other words, when lacquer dries, there is no chemical change. Synthetics, by oxidizing or combining with the oxygen in the air, undergo a chemical change, so that the final finish, as compared to the material in the can, is something entirely different. It is for this reason that gasoline, oil, brine and other solvents will not attack synthetic enamels, once they have completed their oxidation and dried hard. As the solvents evaporate, the oxidizing commences.

We could run into a lot of arguments by attempting to set up an arbitrary refinishing schedule and saying "*That is the way to apply synthetics,*" inasmuch as application instructions, drying time, recoating recommendations and other specifications as supplied by the various synthetic enamel manufacturers seem to all be somewhat different. Instead, we are going to suggest that you choose the type of synthetic that seems best, and *religiously* follow the maker's instructions as to the above.



Here's a picture of what is considered modern spray-finishing equipment. However, the size of some fleets does not warrant such complete installations, but suitable facilities can be obtained for even the smallest sized fleet. This picture comes to us through the courtesy of The DeVilbiss Company, Toledo, Ohio, who'll be glad to discuss your spray painting equipment problems with you.

We might, however, touch this subject briefly, but if it does not agree with the specifications on the product you are using, you'll just skip it, won't you? So here goes: Synthetics, some manufacturers state, should be sprayed thinner than lacquer, and this type of finish can be reduced from 10 per cent to 33 1-3 per cent. On the other hand, some synthetics are supplied in the can at spraying consistency. So it's hard to fix a rule here. However, in thinning synthetics, it would be well to remember that the thinner, turpentine or reducer should be added *gradually*, and thoroughly stirred up. If added at once, it might cause separation or curdling.

Since synthetics have a high solid content and stay wet longer, many manufacturers are recommending a light mist or fog coat, to be immediately followed by a full, even coat. The reason for this is that the first coat, in its partly dried or tacky state, provides sort of a binder for the full coat to adhere to, thus helping to prevent sagging and wrinkling. In fact, some painters start spraying the mist coat on a vehicle at one end and by the time they have gone completely around and come back to where they started from, they are ready for the second, or full coat. The drying time between the thin mist coat and the full coat, is given as about 20 minutes, on the average.

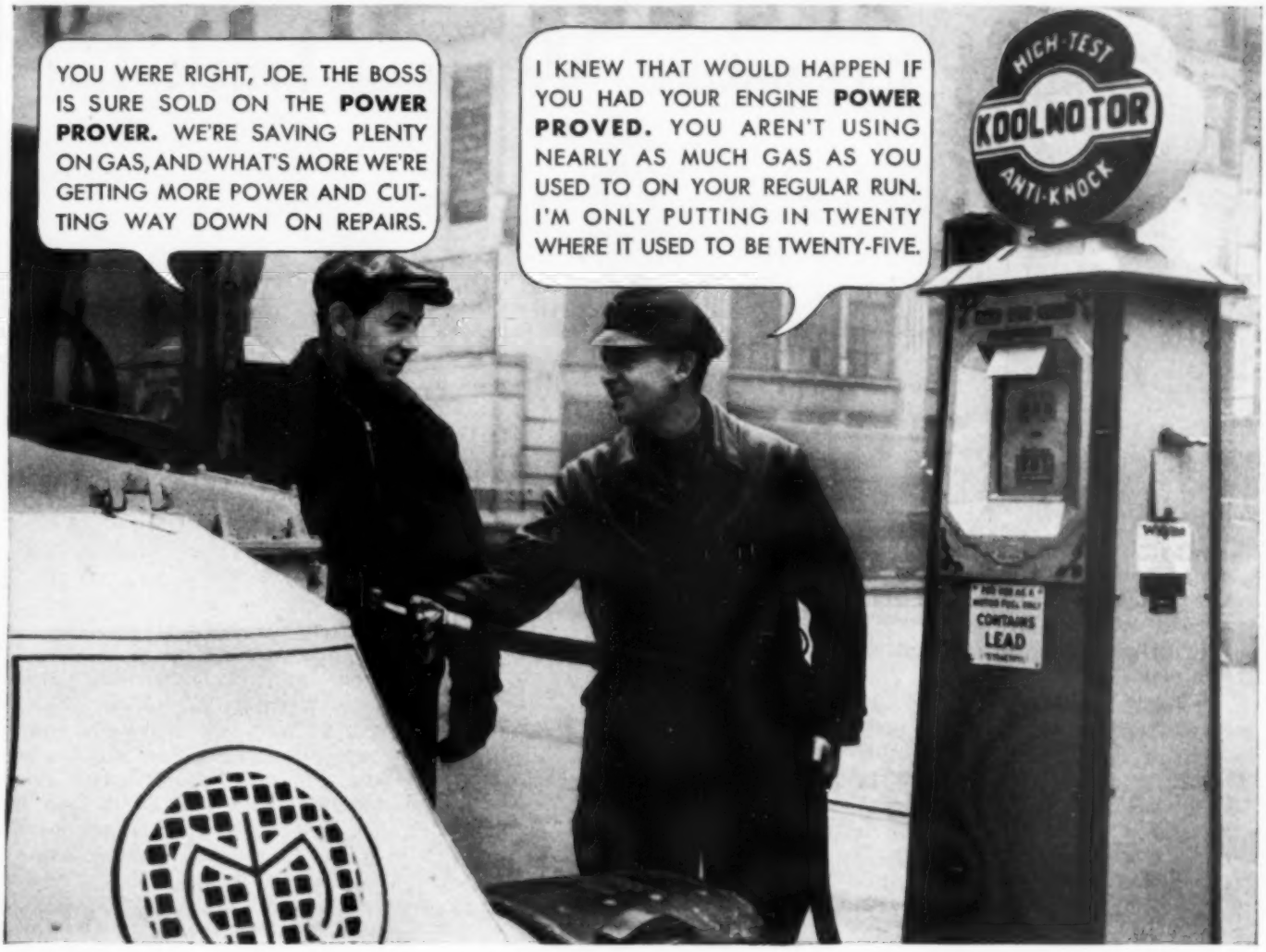
Most manufacturers of synthetics caution against recoating, if it cannot be done within ½ to 1½ hours after the application of the first coat. If for any reason, the second coat cannot be applied within that time, it should not be done until at least 12 hours have elapsed, preferably overnight. However, different manufacturers' specifications do not seem to agree on the exact number of hours necessary to wait. Some of them say 4, 5 or 6 hours are sufficient to wait between coats, in the event that immediate recoating is not possible.

We must again emphasize the importance of following the instructions that may apply to the product *you are using*. This article is attempting to be *general*. Third and fourth coats, if deemed necessary, should each be applied after an over-night dry, or a period of 4, 5 or 6 hours as before stated. So much for schedules.

While it is true that synthetics may be applied directly over old finishes, many manufacturers recommend the use of special synthetic wood primers, metal-primers, etc. We understand that lacquer undercoatings *can* be used for this purpose, but on metal work *only*, as in such spots where the bare metal shows through. Lacquer undercoatings should *not* be used on wood-work or on composition paneling. It is best to follow the manufacturers' instructions here. Some painters have been known to use oil-base primers, such as lead-and-oil, some of which have caused blistering and it would seem good to stay away from these, as they are very slow drying, anyway.

A word or two about the spraying equipment. Special guns have been produced for synthetic enamels and better results will be obtained with their use. Special synthetic "heads" or nozzles are also available, and either of these should be used. You will need a bit more air pressure to thoroughly atomize synthetic enamels, since their solid content is higher than lac-

(*Please turn to page* 55)


YOU WERE RIGHT, JOE. THE BOSS IS SURE SOLD ON THE **POWER PROVER.** WE'RE SAVING PLENTY ON GAS, AND WHAT'S MORE WE'RE GETTING MORE POWER AND CUTTING WAY DOWN ON REPAIRS.
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Say "I saw it in FLEET OWNER"—It Helps!

Eliminating Premature Wear on Truck Tires

Some Common Causes of Unnatural Tire Wear

By Wilson C. Bray,
B. F. Goodrich Rubber Company, Akron, Ohio.

UNNATURAL tread wear in pneumatic truck tires may be divided into two classes—unusual wear which may be attributed to the mechanical condition of the vehicle and peculiar wear resulting from operating conditions.

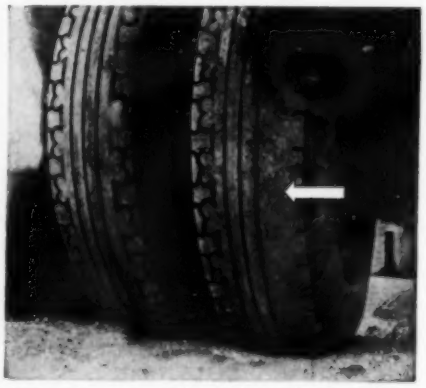
Probably one of the chief causes of unnatural tread wear is the misalignment of wheels. Although this condition is most often found in front wheels, it is not confined to these alone. This type of wear is usually recognized because it is more rapid than should be expected, and it is usually accompanied by what is known among tire men as a "feather edge" along one side of the tread design. This feather edge occurs when the tire is not running in a straight line and a scrubbing action is set up which wears the tire to a very sharply defined edge. In order to eliminate this type of peculiar wear, periodic checks should be made of wheel alignment, particularly after an accident, also after any repair work has been done on the truck which might in any way affect wheel alignment.

Another mechanical condition which often affects tire wear is faulty or unequal brakes. If the brakes are not properly adjusted, one wheel will be doing most of the work and the tire or tires on that wheel will wear down more rapidly than the others on the vehicle. In the case of emergency stops, it often happens that most of the braking is done on one wheel. The tires on that wheel will slide, which may take several thousand miles from the life of the tire in a few seconds. Brake drums which have become out-of-round in service cause the brake to be more effective at one or more points in the revolution of the tire and at that point the tire will wear down more rapidly than at any other, causing spotty, uneven tread wear.

Misalignment Causes This

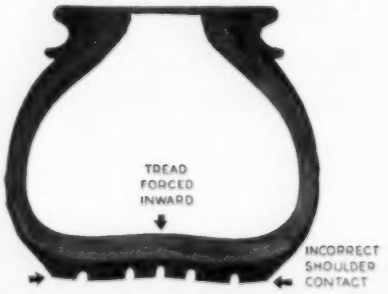
The old story of front wheels out of line applies here. Arrow shows the "feather edge."

Several Things Cause This



Bent axles, crowned roads and unequal inflation—all can cause inner tires to wear faster than outer ones.

Under-inflation Causes This



Under-inflation and over-loading share the blame equally, wearing the shoulders prematurely

Once the tire has started to "flat-spot," even though the cause may have been removed, the flat spotting will continue, causing premature failure of the tire.

Bent wheels are another factor which cause peculiar tire wear. This condition is one which often goes unnoticed, because the driver never knows the wheel is bent unless someone stops him on the road to tell him about it. The garage men of the fleet will never find it unless the truck is jacked up and the wheels revolved. The bent wheel wobbles, which results in spotty tire wear.

Where dual tires are used, a check should be made periodically to be sure that both tires mounted on the same wheel are running in the same line. If the condition is not corrected, one of the tires tends to run in a sidewise direction part of the time, which causes a very uneven and also very rapid wear at certain points on the tire.

On trucks and buses using semi-floating axles, a wobbly wheel does not always mean a bent wheel. The wobble may be caused by a bent axle shaft. The cause of the wobble can readily be determined, however, by jacking the wheel up and revolving it. If the hub runs true, but the wheel wobbles, it is pretty safe to assume that the wheel is bent. However, if the hub tends to wobble, the trouble is usually in the axle itself.

An unusual condition is sometimes observed in dual tire use, where the inner tire seems to be wearing very much faster than the outer tire. This is particularly true on trailers. If this condition exists, a careful check should be made to determine whether or not the

(Continued on page 55)

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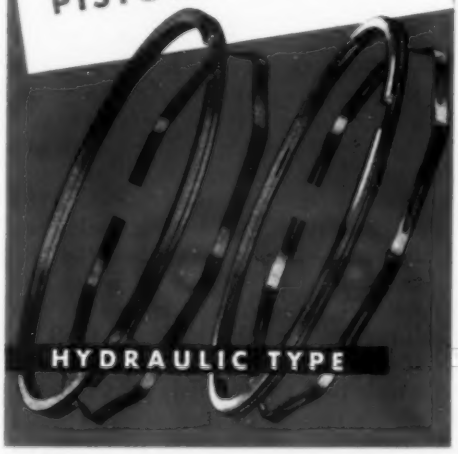

THERE'S no denying the fact that many a fleet owner is heedlessly "shooting" his profits out through the exhaust pipe. Sooner or later "constant wear" will cause EVERY motor in your fleet to reach this oil-wasting stage.

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Say "I saw it in FLEET OWNER"—It Helps!

When Should Crankcase Oil be Changed?

By Paul Williams,
Lubrication Engineer, Detroit, Mich.

IN following the lubrication problems of fleet operators having various types of fleets, working under different operating conditions, there are found many ways in which some of these operations can be simplified and costs lowered. With reference to the lubrication of motor vehicles, this can be brought about by following a few very simple and basic rules.

The writer has been asked by your Editor to enumerate some of these, which he is taking the liberty of doing. He will also be glad to answer any questions that may occur from time to time on any fleet operator's individual problems.

The general tendency in lubrication has been (for a long time) to use an oil too heavy for the specific requirements of a given fleet. The purpose of using the higher viscosity oils was, first of all, to lower oil consumption.

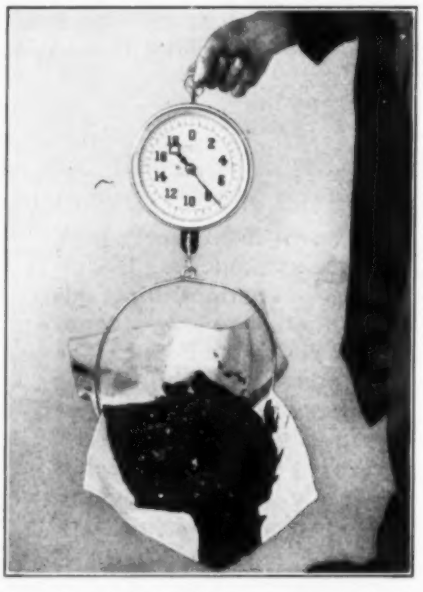
In some cases it has been felt that lower viscosity oils would not stand the severe engine operation conditions encountered by the given fleet, but this is a mistaken idea and some of the results from this practice have been:

(a) Increase in gas consumption.
(b) Engines run hotter than normal under given operating conditions.
(c) Excessive wear due to lack of lubrication when motors are cold.
(d) Sludge conditions in winter due to incomplete combustion of the lubricating oil; that is, lack of clean burning which in turn is due to too heavy an oil for a given temperature of operation.

Concerning the period between drainages of lubricants, the proper period for draining of lubricating oil varies with the different fleet operations, and where one fleet operator can drain his lubricants every 1,000 miles, and another every 2,000 miles, there are some fleets that should drain as frequently as every 500 miles. It is especially necessary to drain more frequently in the winter.

The determination of drainage periods depends not upon mileage nor upon time, rather upon the *condition* of the crankcase drainages. If the amount of solid impurities in the drainage is excessive, the oil will cause excessive wear of the engine. If there is a quantity of liquid dilution in the oil, the same results will be encountered, even though there be but a small quantity of solids present.

Accordingly, the frequency of changing oil should depend upon the condition in which you find your crankcase drainage. It is always to be remembered that the maintenance cost of the fleet will depend to a great extent upon the available *quality* of lubrication that is being obtained in a given operation.



Page Mr. Ripley! Believe it or not, this is an actual photograph. It represents a total of 7½ lbs. of solids that were filtered out of a barrel of used crankcase oil belonging to a leading fleet operator.

The cost of lubricating oils, the quantity used, or the grade of oil purchased, should *not* be governed by the initial cost but by the insurance of the *best possible* lubrication for the fleet. This method alone will give you the lowest maintenance cost and lowest gasoline cost per mile, and these are far more important than initial lubrication costs.

When the fleet operation is of sufficient size, there is no doubt but that the investment of money in oil reclamation equipment will pay a handsome return. If operated to capacity, for instance, one equipment of this kind has been known to pay from 300 to 500 per cent per year on its initial cost.

Operation of oil reclaiming equipment will also obviate the necessity of extending the draining period to injurious lengths in an effort to reduce your oil bill, since no matter how often you may drain crankcases, your loss of oil drained will be less than 20 percent instead of 100 percent.

To make this point clearer, let us say, for instance, that we drain a ten-quart crankcase. If the price on our new oil is 45 cents per gallon, and I think that is a fair average figure on which to base our estimate, it is going to cost us $1.12 to refill, but with a reclaimer we can reclaim 8 quarts of the ten drained at, let us say 10 cents per gallon. We therefore save the difference on two gallons of oil at 10 cents per gallon which is 20 cents; and two gallons at 45 cents, which equals 90 cents. The total saving would then be 70 cents on the operation in question or about 60 percent, and believe me, that is why thousands of large fleet owners through the country are using reclaimers.

(*Continued on page* 55)

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Triple Protection

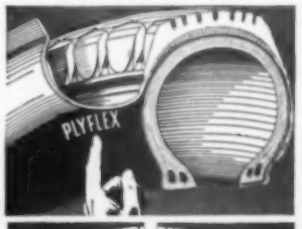
CHECKS 80% OF PREMATURE TRUCK TIRE FAILURES

Thirty-eight dollars for a blow-out! That hasn't been an unusual price for many truck owners to pay. Lots of truck tires go to pieces long before the tread is worn. That makes tires mighty expensive. Blow-outs, too. Added up, the "Failure Zone" costs truck owners millions of dollars a year. Let's not beat about the bush. Goodrich knows that the sidewall has been the weakest point in all truck tires. And Goodrich is telling the whole world. It's the sidewall where most unnecessary tire failures start! That's why Goodrich builds Triple Protection into every Silvertown sidewall. A positive check against 80% of premature truck tire failures!

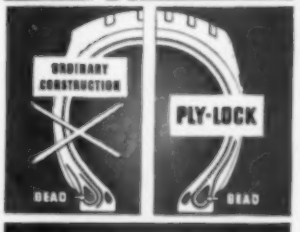
WHY GAMBLE YOUR MONEY?

Why take chances when you can secure a tire that has always had a reputation for delivering more miles, for being the safest tire—and now has Triple Protection against sidewall failures thrown in free?

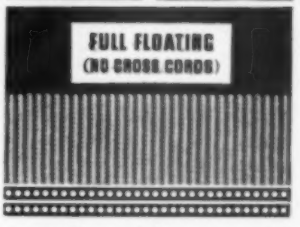
No one can afford to throw tires away with the tread only half worn. Goodrich spent millions to prevent just that. The result is Triple Protection at the "Failure Zone." Here's what we mean:



1 PLYFLEX—Plyflex is a new tough, sturdy rubber material. Every Silvertown truck tire has a layer of Plyflex protecting the sidewall. It bears the brunt of the strains caused by the tire flexing several hundred times a minute. It distributes the stresses throughout the carcass. It prevents local weakness.



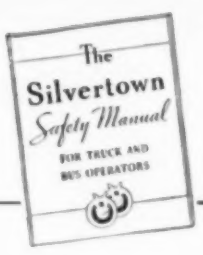
2 PLY-LOCK—The short trouble-causing plies in ordinary tires often tear loose just above the bead. A direct result of stresses concentrating at this one weak point. In Silvertowns, the plies are "locked" about the beads—anchored in place. The tapered ply ends are floated in rubber. This is PLY-LOCK.



3 FULL-FLOATING CORD—100% Floated-in-rubber cord fabric is used in the new Silvertowns. Each cord is surrounded by rubber. With ordinary cross-woven fabric, when the cords touch each other they rub—get hot—break. In Silvertowns there are no cross cords. No friction. Fabric *wears longer*.

ONLY GOODRICH offers this protection against premature failures at no extra cost. See the new Silvertowns today at any Goodrich truck tire dealer. Ask for a free load analysis of your trucks. Ask to see the demonstration that proves Triple Protection.

FREE! 48-page Safety Manual. Tells how to cut accidents—save money—build good will for your fleet. How to get free Silvertown Safety Awards for your drivers. Write Dept. T-104, The B. F. Goodrich Rubber Co., Akron, O.



Goodrich *Triple Protected* Silvertowns
FOR TRUCKS AND BUSES

Say "I saw it in FLEET OWNER"—It Helps!

Various Clutch Adjustments

TWO previous articles on the general subject of Clutch Maintenance covered everything—analyzing the trouble, dis-assembling, checking of parts, including flywheel housing, pilot bearing, throwout bearing, splines, plates, etc., and final reassembling including the use of new parts where necessary. We shall now take up the matter of adjustment, showing how several of the popular clutch types are adjusted, both when newly replaced, and to take up normal wear in regular service.

In most Borg & Beck clutches, particularly the older types, the pressure levers are mounted directly on the clutch cover, and therefore the entire cover must be turned in the flywheel to change the position of the three levers on the cams. (See illustration). These clutches are held to the flywheel by either three or six clamps and clamp screws. To adjust:

1. Loosen all holding screws (A) until the clutch cover will turn in the flywheel.

2. Turn clutch cover about ½-inch in the direction opposite to flywheel rotation as indicated by the arrow on the clutch cover.

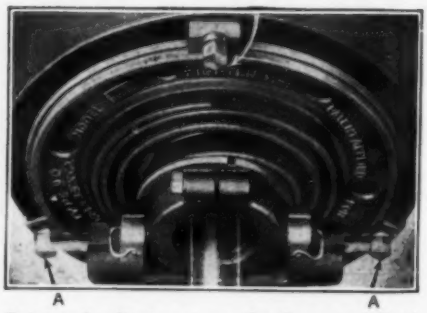
3. Tighten the holding screws.

4. Now measure distance from rear face of release sleeve to clutch cover. (All measurements must be taken when the clutch is in operating position.) This distance should be: 1⅛ inch for 8Q and 9Q; 1 inch for 9Q Federal and 9Q Hupp; 1-5/16 for 10Q, 11Q and 13Q; 2-3/16 for 9QL; 2⅜ for 10QL, 11QL and 12QL.

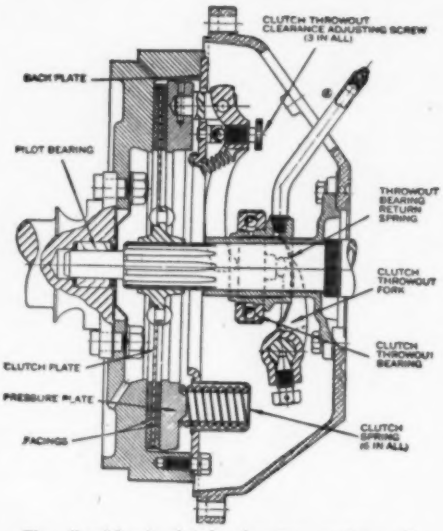
5. If this space is more than the given dimension, loosen holding screws and turn in the same direction. If less than given dimension, turn cover in direction of flywheel rotation. After correct setting has been obtained be sure holding screws are tight. This completes the clutch adjustment.

Generally, when a new clutch plate is installed, the clutch pedal requires adjustment; to obtain proper adjustment, proceed as follows:

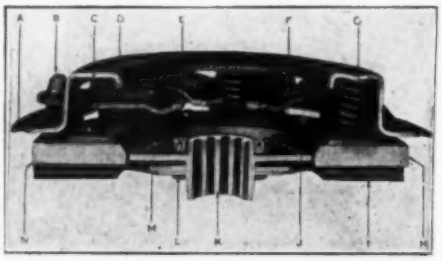
1. Pedal pad should come in contact with the toe-board when pedal is depressed. If it does not move that far, making it necessary to spring the pedal to make pad touch toe-board, shift pedal down a little by means of clutch pedal adjustment.

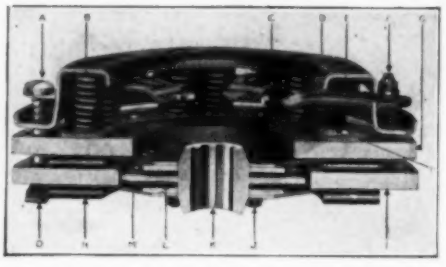


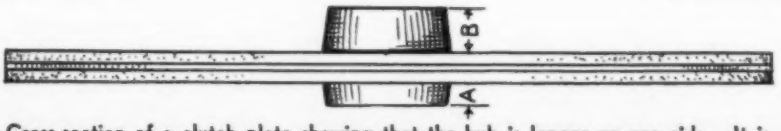
Points of adjustment on the Borg and Beck



The Rockford clutch showing points of adjustment


Sectional view of the Long single plate clutch


Sectional view of the Long double plate clutch



Cross-section of a clutch plate showing that the hub is longer on one side. It is important when removing the old plate to note which side of the hub faces the flywheel.

2. Press pedal down and note distance release sleeve travels. To obtain a clean release it should be pushed towards the flywheel: ¼ inch for 8Q, 9Q, 9Q Hupp and 9Q Federal; ⅜ inch for 10Q, 11Q, 13Q, 10QL, and 12QL; 5/16 for 9QL.

If the release sleeve does not travel proper distance shift the pedal up, bearing in mind that pedal pad must touch toe-board. The clutch pedal adjustment has now been set in correct position and should not be changed again, because adjusting the clutch automatically restores clearance under toe-board.

On the Rockford clutch, as the facings wear, the clearance between the release levers and release bearing is decreased. The effect on the clutch pedal is to decrease the clearance under toe board, which is the distance the pedal moves away from toe board before the release bearing comes in contact with the release levers. By adjusting the pivot plates, adjacent to the release levers and turning them in a clockwise direction—first loosening the lock screws—this increases the clearance between the release levers and release bearing as well as restoring the proper free travel of the pedal.

To adjust the Rockford clutch, (see illustration) remove the toe-board and hand-hole plate on the bell housing. By means of the three pivot plates which are held in place by the lock screws, adjust the release levers so that the levers contact the release bearing simultaneously and the distance from the front face of the release bearing to the rear face of clutch back plate is 1⅛ inches when the clutch pedal is depressed approximately 1 inch. When the pedal is released and the clutch en-

(*Cont. on page* 34)

MOTOR TUNE-UP

Every car and truck needs a thorough motor tune-up at regular intervals

To make motor tune-up fast, easy and accurate, we have prepared a series of charts for all models of Carter-equipped cars and trucks. Upon request, we'll send you a set of these charts, free of charge, and the name of your nearest Carter distributor.

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Say "I saw it in FLEET OWNER"—It Helps!

A "HOW-TO-DO-IT" ARTICLE (*Continued*)

gaged there will be approximately 1/16 inch clearance between the front face of the release bearing and the ends of the release levers. This completes the clutch adjustment.

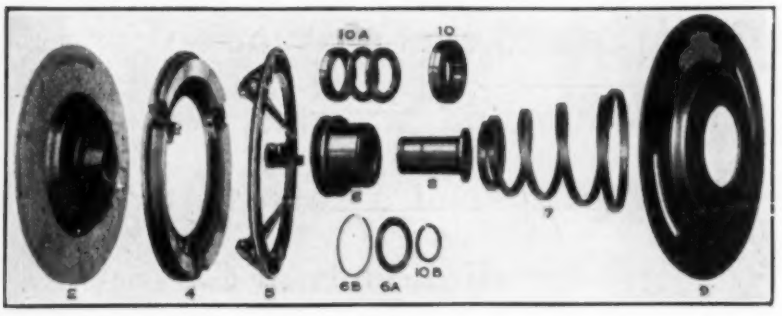
Adjust the clutch pedal stop screws so that the pedal is as high as possible without interfering with the toe board. Next, adjust the set screw in the clutch pedal dog so that the pedal has a free movement of about 1 inch from the fully engaged position before it begins to release the clutch. The clutch pedal is now in its correct position and should not be changed again because adjusting the clutch automatically restores the free pedal movement.

Inasmuch as all models of the Long Double Plate Clutch (see illustration) are self-compensating for friction facing wear, do not attempt to adjust the release levers. The lever nuts F are set and permanently locked after the release levers are brought into a parallel plane during the factory assembly operation and they should not be disturbed. As friction facing wear takes place the release levers travel outwardly until they contact with the cover plate rim D. At that time full wear of the facings will have taken place and the driven member should be replaced.

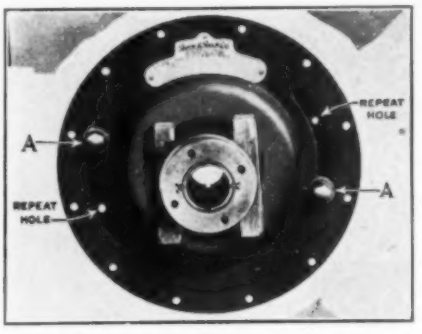
stalled on the flywheel. It is a permanent adjustment and will need no future attention.

The clutch pedal and all of its release linkage should be kept well lubricated to insure freedom of the operating parts. Make certain that at all times there is at least one inch free movement between the clutch pedal and floor board. As normal clutch wear occurs this amount decreases, and if it is neglected clutch slippage with its ruinous results will follow. This is of vital importance.

In the maintenance of the Long Single Plate Clutch (see ilustration) much of the above information applies equally well. In this clutch the release lever nuts (B) are set and permanently locked after the levers are brought into a parallel plane during the factory assembly operation and they should not be disturbed. As friction facing wear takes place the release levers travel outwardly until they contact with the cover plate rim (D). At that time full wear of the facings will have taken place and they should be replaced. When new clutch cover plate screws are used they must be 5/16 in.—18 S.A.E. standard not more than ¾ in. long and the threaded section extending within 3/16 in. of the shoulder.



A dis-assembled Borg & Beck clutch of the single-spring type. Note that the parts are placed in their relative positions and in the same order that they are placed in the assembly.



Adjusting bolts and repeat holes for this type of clutch.

After the original clutch is removed for any reason, care must be exercised during the reassembly operation. A dummy spline shaft should be used to align the clutch driven member hub with the fly-wheel pilot bearing. With the shaft in position it may be completely assembled by securely tightening the six driving stud cap screws. If new cap screws are used they must be ⅜ in.—24 S.A.E. standard not more than ⅞ in. long and the threaded section extending within 3/16 in. of the shoulder. When installing the clutch driven member, the center driving plate separator springs O must be against the flywheel. Make certain that this member slides upon the studs perfectly free in this position.

After the clutch is completely installed and the six cap screws tightened, turn the three adjustment screws A by means of a screw driver to the right until their ends bottom against the center driving plate. Afterwards reverse each one one-half revolution or three notches. Their inner shoulders are serrated and the locking washers under spring pressure locks them. As each notch is reached a clicking sound will be heard. This operation will correctly locate the center driving plate and keep it evenly spaced under disengagement so that both driven discs will become free. This operation is only to be cared for after the clutch is in-

The presence of grease upon the friction facings will cause the clutch to chatter and grab during the engagement period or slip at higher speeds. When this condition exists thoroughly check the source of leakage and correct. Lubrication permeates into the friction material and cannot be satisfactorily removed unless there is but very little of it. A cloth saturated with naphtha may be used in cleaning the facings if they are not oil soaked. Afterwards they should be lightly scrubbed with a fine grade of sandpaper.

●

Motor Truck Directory Now Available

A REFERENCE book dealing with the traffic and operating problems confronting motor truck haulers and users of trucks in general has been published by Traffic Publishing Company. It is a 725-page volume, 8½ x 11 inches, with leatherette binding.

It is intended to serve the needs of truck operators, shippers, lawyers, accountants, and others interested in motor truck activities; a comprehensive publication on commercial highway transportation. The price is $10.00 and it may be obtained from Traffic Publishing Co., 100 Sixth Ave., New York City, or from Ferguson Publishing Co., 90 West St., New York, N. Y.

POWERFUL TRU-STOP EMERGENCY BRAKE

"Brakes did not work"—there is no way to get around that alibi. When true it means danger to property, if not to life and limb. The wise owner of truck or bus installs Tru-Stop Emergency Brakes for these good reasons:

1—Tremendously powerful—300 to 1 Leverage.

2—Stoutly built to stand abuse.

3—Simply, quickly, accurately adjusted by any mechanic or driver.

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Tru-Stop Brakes are adapted to all standard makes of transmissions or can be mounted on frame cross-members. Double shoe for heavy service, single shoe for light service.

No lengthy or expensive servicing.

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Say "I saw it in FLEET OWNER"—It Helps!

TROUBLE SHOOTER

(You Ask 'Em — We Answer 'Em)

A department, devoted to correspondence from readers of FLEET OWNER. Any questions having to do with automotive service will be answered in this department. All properly signed inquiries will be replied to by mail and such of them as are believed to be of possible interest to other readers will be published in these columns.

More About Tire Retreading

Question: In recent months there has been considerable agitation regarding the retreading of pneumatic tires. There seems to be much divergence of opinion regarding the economics involved. Have you any data on this subject?—B.M.C., Chicago, Ill.

Answer: The above question appeared in our May issue, and further investigation has provided some interesting experience data along these lines, which comes from a large fleet operator in New York City. Here it is:

It is the opinion of this fleet manager that a standard-sized tire, used on the job for which it was designed, will be completely worn-out after its tread is worn off, and should not be retreaded, even though the carcass "looks" good.

However, by using an *oversize* tire in the beginning, he believes that even though the tread be worn off, the carcass will not have suffered much, and that under certain conditions a retread job will give good service.

Acting on this theory, for instance, they use double or triple oversizes on their ¾-ton jobs; such sizes as 8.25 x 20 balloons. When the treads of these tires wear off, they have them retreaded, in some cases, and the cost is about 60% of the original cost of the tire.

This retreading work is farmed out to firms specializing in it, who guarantee as much mileage as the tire originally delivered. But the fleet operator seldom gets 100% of the original mileage; somewhere between 60% and 75% is more like it, on the average. It goes without saying, therefore, that if he gets *less* than 60% of the original mileage, the retreading procedure will be a *losing* proposition, since it costs about 60% of the cost of a new tire.

This operator does not seem to be having difficulties with tread separation on retreads; any difficulties are found in the carcass. The machines and methods of retreading have been developed to a high state of perfection, he believes.

It would be well to bear in mind that this particular operator *knows* the exact history of each tire, before he decides to retread it. A tire used on a truck that has been operated over hilly, rough and stony roads is not expected to have a good carcass left, after the tread is worn off; therefore they will not retread this tire. On the other hand, a tire that has been run on smooth concrete, for the most part, will stand good chances of performing well when retreaded.

As in all things, history repeats itself. When tires were being sold at record-breaking low prices, few people bothered about retreading. Now that tires are going up in price again, retreading is being thought about by many people. It is just the repetition of another cycle, similar to what we have had in the past. Whether or not it pays to retread, you alone will have to decide. It is feared, by the fleet man supplying the foregoing information, that with rising prices of rubber, the use of reclaimed rubber might be resorted to, for retreading purposes. In such cases, they should not expect good performance of retreaded tires.

●

More Inquiries on Passenger Cars

Question: I would like to get the following information: The correct front wheel alignment, pitch, caster, etc., for a 1930 Hudson 8 and for a 1931 Auburn 8. I would also like to know the correct position of the steering ball arm in relation to the center of the axle.—G. W. B., Chicago, Ill.

Answer: For the 1930 Hudson the specifications are as follows: Camber 1 degree; Toe-in ⅛-inch; Caster 1 degree; King-pin angle 7 degrees.

For the 1931 Auburn they are: Camber 2 degrees; Toe-in ⅛-inch; Caster 2 degrees; King-pin angle 7 degrees.

With reference to the correct position of the "steering ball arm." Correct alignment of the drag-link can be obtained by having the ball pivot of the steering knuckle in line with the rear end of the drag-link and the front eye-bolt of the front spring. A spindle or knuckle that is badly bent should be replaced with a new one.

You May Not Believe It!

(But It's True)

THE FACT:

NITRIC ACID, for many years handled in glass containers or carboys, because metals in general (except a few, such as gold) will not resist its chemical action, is now being shipped in aluminum drums.

EXPLANATION:

THE curious fact about aluminum, which by ordinary rules should not be true, is changing the situation, according to THE ALUMINUM NEWS-LETTER. If the nitric acid is strong enough—80% or more—aluminum exhibits a marked indifference toward it. Chemists tell us that, up to a certain point, the weaker the acid is the more corrosive it is. This is a condition, however, which varies with different acids and the metals with which they are brought into contact. This fact has long been known to the man in the laboratory, and it seems strange that previous commercial utilization of this knowledge has not been made.

BIG VALUE!

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$1185
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WHITE PERFORMANCE AT SENSATIONAL LOW PRICE BRINGS NATION-WIDE ACCEPTANCE FROM BUYERS . . .

Big value! That sums up what owners in every field are finding in the new White. It IS big value when you can get all White Quality at such a sensationally low price. Enthusiastic owners are proving what White performance means in gasoline and oil economy—power—speed—flexibility and dependability. The nation-wide acceptance of the new White is reflected in the fact that White Truck sales are the biggest in five years.

Low prices . . . Model 701—8,000 lbs. gross. Wheelbases 132-156—$1185. (Chassis at factory) . . . Model 702—13,000 lbs. gross. Wheelbases 132-156—$1295. (Chassis at factory) . . . Liberal terms can be arranged. Prices subject to change without notice.

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NEW *White* TRUCK
WITH 17,000 LBS. GROSS

Model 712, another leader in its field, is engineered to the same modern specifications as the other Whites in the 700 series. It is particularly suited to tractor service, furniture vans, oil tank work, dump truck and road building and all general delivery operations. All White Quality means that, throughout the chassis, you will find many exclusive money saving features that convince you of the economy of White quality.

• A new White 6 cylinder—90 horsepower engine . . Stellite screwed-in valve seats . . Full pressure lubrication . . 7 bearing counter weighted balanced crankshaft . . White full floating rear axle . . Hydraulic brakes . . Greater payload per wheelbase . . Real economy . . Driver comfort . . Wheelbases 128", 140", 152", 170", 188".

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CLEVELAND, OHIO

MILLER Quality PAPERS

OFFICE OF VICE PRESIDENT
WILLIAM JONES

March 13th, 1934

Mr. F. E. Davis, Director of Purchases,
The Sherwin-Williams Company,
Cleveland, Ohio.

Dear Frank:

If you want to see the finest trucks in the City of Cleveland, some day stick your head out of the window when we are making a delivery over to your plant, and you will see a nice bright red truck, which in our estimation is about the finest thing we could possibly get for our particular business.

Incidentally these were all painted with your Enamels by Gustav Schaefer, Builder of Bodies, the fleet of three, of White Motor manufacture, and one small Chevrolet.

The Schaefer people told me this was the best paint they had ever applied on truck bodies, altho they had been in the habit of buying paint of another manufacture from some Chicago people.

If your Advertising Department features the pictures of trucks painted with your product, we would be pleased to furnish you with a copy of the photograph.

With kind personal regards,

Yours very truly,
THE CENTRAL OHIO PAPER CO.,

Vice President,
Cleveland House.

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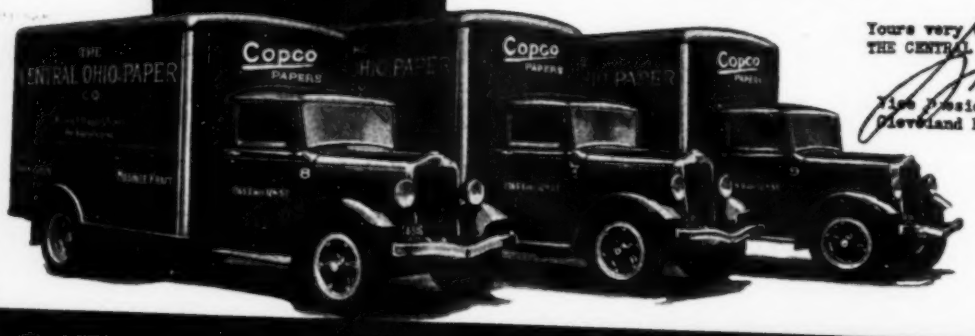
Photograph of Ohio Paper Company truck finished in S-W Kem by the Schaefer Company of Cleveland



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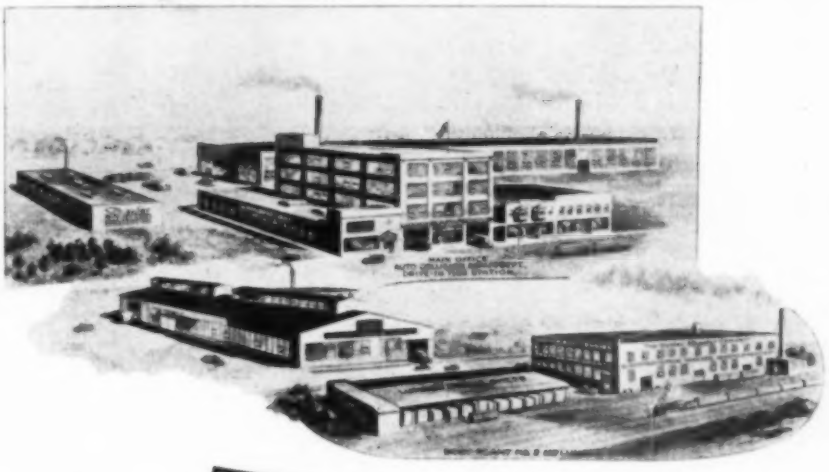
S-W KEM ENAMELS

The Central Ohio Paper Company of Cleveland considers its trucks as traveling messengers of good will—attractive billboards that move with the city's traffic, keeping the company's name constantly before its prospects.



In S-W Kem Enamels they found just the ideal combination—the rich full gloss and true clear color combined with exceptional durability so necessary for heavy service. The Gustav Schaefer Custom Body plant which did the work were so enthusiastic about the ease of application and working qualities of Kem Transport Finishes that they have standardized on it in their shops, where quality rules supreme.

Where truck finishes must be durable to take heavy service . . . where they must be attractive to keep advertising value high . . . where they must be economical in first cost and in upkeep, Fleet Owners specify Kem Transport Enamels for lasting appearance. Our Finishing Engineers are at the service of fleet owners anxious to obtain the best in painting results. They will work out complete specifications for your fleet without charge. Address The Sherwin-Williams Co., Dept. 623, Cleveland, Ohio.

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The Sherwin Williams Company,
Midland Bank Building
Cleveland, Ohio

Dear Mr. Winsor:-

Following your visit to our new, modern custom body shop, which by the way, we enjoyed very much, we enclose herewith a photograph of this new establishment which you may find of interest.

For 54 years, we have been using Sherwin Williams Paints, and in fact, the writer himself for 18 years applied plenty of your material.

Vehicle painting has had to undergo many changes in recent years, and we are now using, and in fact, have for some time standardized on your Kem Transport Enamels which are giving us good results on both wood and metal surfaces.

Thanking you for your interest and inviting you to stop in again any time you are over our way, we are

Yours very truly,

The Gustav Schaefer Company,
Ernest Schaefer
Gen'l & Sales Mgr.

WILLIAMS PORT ENAMELS

Say "I saw it in FLEET OWNER"—It Helps!

TROUBLE SHOOTERS' DEPARTMENT (*Continued*)

Save the Peroxide for the Blondes

Question: Have you any information, or have you heard of anyone using peroxide as a carbon remover?—J. D. B., Boston, Mass.

Answer: We have never heard of this in actual use, but after giving the matter some thought, we have come to the following conclusions.

First, it is difficult to get fully concentrated hydrogen peroxide, which is H_2O_2. Secondly, this product breaks down rapidly, even when handled with extraordinary care, so that one part of the oxygen passes off, leaving water, or H_2O. Exposure to moderate temperatures, sunlight, etc., will cause this decomposition to take place.

Even if you obtained fully concentrated hydrogen peroxide and injected it into the intake manifold, it is doubtful whether much carbon, if any, would be removed. Theoretically, the excess of oxygen that would be liberated *should* assist in burning up the carbon deposits, but we doubt whether or not it would work out in *actual* practice.

On the other hand, if what you introduce is plain water, as will be most likely, if you use the drug-store variety of peroxide, this won't do any harm, and *may* remove some carbon. All of us, of course, are familiar with this stunt. We understand that the bottled peroxide generally obtainable is only a 2% solution—the other 98% being water. It would seem better, therefore, to save the peroxide for your blonde girl-friend, and either scrape or burn out the carbon by accepted automotive methods.

The above observations are only our own personal ones. So if any of our readers have used peroxide successfully, we'd be glad to hear from you. As the preacher would say, "Speak now, or forever hold your peace."

●

Will Graphite Lubricants Clog the Oil Pump?

Question: We would appreciate having your opinion on the various graphite oils now on the market. Do you think that these are good for breaking in new motors? Have you had any complaints of these lubricants blocking up the oil pump on account of the graphite? We would like to have your advice in the matter. —S. S. D. Co., Chicago, Ill.

Answer: We presume that you are referring to those auxiliary lubricants that are intended to be mixed with the gasoline in the tank, or the motor oil in the crankcase.

We have never heard of oil pumps being clogged up on this account. It seems to us that most of these graphited oils use colloidal graphite, which is a very highly refined lubricant, and is not to be confused with ordinary graphite in powder or paste form. Colloidal graphite, itself, is a heavy black liquid, according to samples which we have seen, but the amount that is put into auxiliary lubricants is very small. Even if it were used alone, we doubt whether it would clog up oil pumps.

Auxiliary lubricants containing colloidal graphite are said to be excellent for breaking in new motors. It is claimed that they deposit a film of lubricant on bearings which remains there for some time, as it becomes affixed to the bearing metal. Since a large number of oil companies are marketing these auxiliary lubricants, we do not believe you will have any trouble if you pick the product of a reputable concern.

We would suggest that you write to Acheson Oildag Company, Port Huron, Mich., for a set of technical bulletins on Colloidal Graphite. These, we understand, will be sent to you without charge; also to any other readers who may be interested in this important subject.

●

Reduce Caster on Air-Wheeled Fords

REPORTS of difficulties with "tramp" in cars equipped with Airwheels are rapidly disappearing since "balance" is better understood and dealers are equipping themselves to provide balancing service, says the *Goodyear News*.

Superseding such reports are letters telling how cases of "tramp" were corrected easily and simply. Proper balancing has taken the mystery out of "tramp."

In Ford cars as well as others, balance is of first importance as an adjustment to eliminate "tramp" and if the front wheels assemblies are in proper balance, the operation of the car will usually be found to be satisfactory.

It has been found, however, that reduction of the caster of 1932 and 1933 Ford cars will further assist in insuring smooth, stable operation, easy steering and proper righting on turns where Airwheels are used.

As they come from the factory, the caster of Ford cars is around 6½ degrees. For best results with Airwheels the caster should be reduced to 3½ degrees.

Reducing the caster of Ford cars is not a difficult job but caster is of such importance that only the best automobile mechanics should be entrusted with the work.

One caution to be taken into account in changing caster of Ford cars is that when applying heat to the radius rod, protection should be given to rubber bushings in spring shackles and shock absorber links. These parts can be best protected by packing with asbestos.

●

Speed Steps Up Oil and Fuel Consumption

EVERY once in a while some one will complain about excessive oil and gas consumption and in many cases they forget to mention the speeds at which their estimates are made. It is well to point out again, that speed steps up consumption.

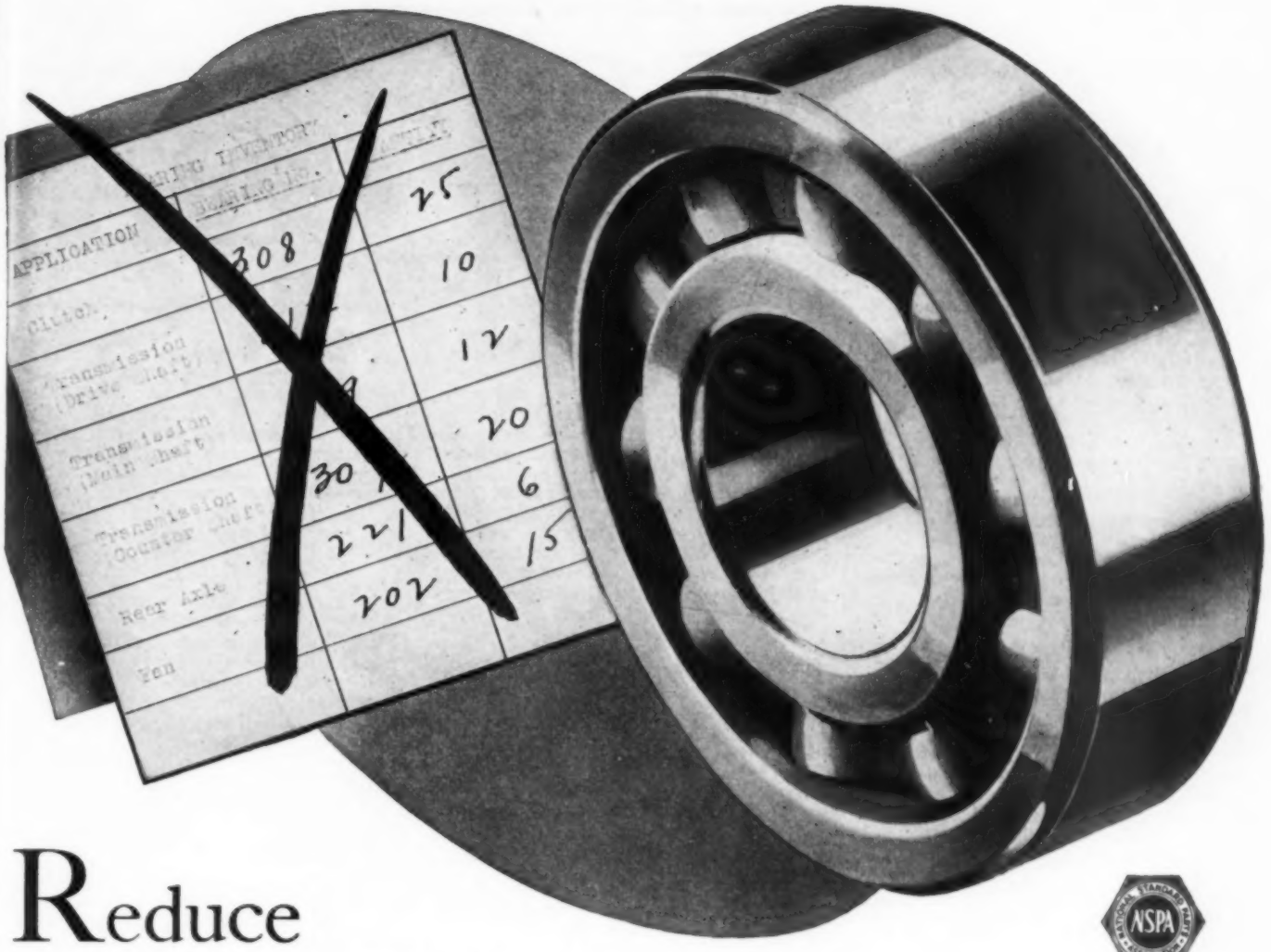
Recent tests, according to one of the oil companies, made with a new, low-priced car, revealed some interesting figures along these lines.

Covering a distance of 5,000 miles, they showed that the car's engine consumed 1/3 of a quart of oil per 1,000 miles, when a speed of 40 m.p.h. was maintained.

Consumption jumped to ⅞ of a quart at 45 m.p.h., 1¾ quarts at 50 m.p.h.; 2¾ quarts at 55 m.p.h.; and 5¼ quarts at 60 m.p.h. Total costs of oil and gas showed as follows:

At 40 miles per hour....	$8.40 per 1,000 miles
At 50 miles per hour....	9.50 per 1,000 miles
At 60 miles per hour....	12.10 per 1,000 miles

It would be well to bear the question of speed in mind when attempting to analyze fuel costs. Comparisons of vehicles of the same type, which are operated at different speeds, cannot very well be made, unless in consideration of the above differential.



Reduce *your ball bearing inventory* with the Fafnir plan

Wipe out the waste of idle bearings on your shelves. Let a nearby Fafnir distributor be your stock room. That's the way many fleet operators are adding profit.

They profit, too, through the greater service mileage which Fafnirs assure. Replacements are fewer because wear and trouble are minimized by these finest of ball bearings.

Fafnir makes a complete line, the exact type and size for every bus. When you need a bearing never hesitate. Just pick up your 'phone and call a nearby Fafnir distributor. He will deliver the bearings you need—and deliver them promptly. THE FAFNIR BEARING COMPANY, *New Britain, Conn.* Pittsburgh . . Atlanta . . Dallas . . Kansas City . . San Francisco . . Cincinnati . . Chicago . . New York . . Minneapolis . . Portland.

Safeguarding Quality

FAFNIR BALL BEARINGS

Say "I saw it in FLEET OWNER"—It Helps!

as WE GO to PRESS

(News of the Truck Industry)

ADVICES received indicate that the budget of the National Code Authority for the Trucking Industry, involving a $3.00 assessment against all trucks operating "for hire," was approved by General Hugh S. Johnson on May 12th. At the same time, the fee of 90 cents per vehicle, proposed to be assessed against vehicles "not for hire," was stayed, pending further order by the Administrator. The order permits the industry to proceed at once with the registration of "for hire" trucks.

•

THE 32nd Annual Convention of the National Team & Motor Truck Owners' Association, Inc., will be held at Cedar Point, Ohio, on July 15th, 16th and 17th. It is expected that the president of the American Trucking Associations will attend; also Fred Nelson, Jr., of the National Code Authority. This convention should stimulate the interest of all local truckers in that vicinity and a large attendance is urged. For details, write E. Foster Moreton, president, 1531 Brooklyn Ave., Detroit, Mich.

•

SALES of General Motors cars and trucks to large fleet users for the month of April exceeded any month on record, except one, according to C. E. Dawson, president of General Motors Fleet Sales Corporation, Detroit, Mich. Deliveries to fleet users for April exceeded the same month of 1933 by 80 per cent, he says.

•

ON May 14th, export shipments of Reo passenger cars and Speed Wagons for 1934 passed the entire 1933 overseas volume, according to Elijah G. Poxson, general sales manager for Reo. Unfilled orders for export shipment of Reo passenger cars total 28% of the entire 1933 export passenger car volume, and unfilled Speed Wagon orders represent 22% of Reo's 1933 overseas truck shipments.

•

FLEET operators and auto body maintenance men had an opportunity of attending a "Synthetic Clinic" held in Newark, New Jersey, one evening last month. The Sherwin-Williams Company, and their jobber—AMSCO—sponsored this meeting, at which was discussed the proper application and characteristics of synthetic enamels. The meeting was very interesting and if similar ones are held in your territory (by any manufacturer) we urge you to atend them. (See article on page 24 of this issue).

AN exceptionally clever publication, the counterpart of the weekly news magazine "TIME," has recently been issued by The White Company, Cleveland, Ohio. Illustrated profusely, with make-up and format in identical style, it will require more than a careful glance to observe that it is *not* the weekly news magazine. Several copies are still available, we understand. Write to Stanley Seward, care The White Company at Cleveland for a copy. You'll enjoy reading it.

•

THE new, 1934 edition of the Celeron Timing Gear Catalog has recently come off the press. This is said to be one of the most complete replacement timing gear catalogs issued. It includes all metal gears for trucks, buses and passenger cars, as well as silent gears. The new "spoke" type of gear, recently illustrated and described in this publication, is featured in the new catalog. If you wish a free copy, write to N. W. Sieber, Continental-Diamond Fibre Company, Bridgeport, Pa.

•

THREE western jobbers have recently added the Toledo line of valves, guides and water-pump parts, according to a factory announcement. In case you are interested, they are: Waterhouse-Lester-Scovel Company, San Francisco; Car Parts Depot, Inc., El Paso, Texas; and W. A. Walbert Company, Sioux City, Iowa. Thirty other additional outlets for this line of parts have been secured since January 1st, the factory tells us.

•

THE organization of a new company, devoted exclusively to the repair of cracks in cylinder blocks, especially across faces of valve seats, has been organized under the name of The Weldize Company, with offices at 236 Huron Street, Brooklyn, N. Y. A new process is utilized, known as "Weldizing." Charles Michaels, well known in the New York Metropolitan territory, heads the new firm.

•

BRAKE drums made by The Dayton Steel Foundry Co., Dayton, Ohio, are now available at jobbers under the new "master brake drum plan." This consists of 26 master drum castings, from which any of 600 service brake drums can be turned out in short order, which operation is facilitated by a machining fixture recently developed. Experience has proved the practicability of this plan, the manufacturer states.

A CHART for builders of refrigerated truck bodies has just been issued by Liquid Carbonic Corp., 3100 S. Kedzie Ave., Chicago, Ill. This chart provides an easy method of figuring the correct insulation for the purposes and conditions under which each individual truck must operate. Those using refrigerated bodies of any kind will find the chart of interest. It's free, we understand.

•

THE new Eastern Distributor for the Burning Brand Company, Chicago, Ill., makers of branding tools and spraying equipment, is Mr. L. Wechsler, 401 Broadway, N. Y. Mr. Wechsler also handles Canton Portable Cranes. Fleet operators having marking problems, on such items as tires, tools, barrels, boxes, etc., will find Mr. Wechsler ready to help solve their problems.

•

THE 25-year old name of Acheson Oildag Company has been changed to "Acheson Colloids Corporation." Offices are still at Port Huron, Mich., and New York, N. Y. The change is one in name only, and does not affect the organization in personnel or location. It is felt that the new name is more representative of the company's business.

•

THE Automotive Engine Rebuilders Association will hold their 12th annual convention and exhibit at the Hotel Sherman, Chicago, Ill., June 11th to 15th, an announcement by J. L. Heckman, president, states. Many parts and equipment manufacturers will exhibit and it is hoped that fleet operators will have an opportunity of attending this.

•

A New Terraplane Six, known as the Challenger Series, is now on display at Hudson Dealers throughout the country. Four models are offered —a coach, sedan, business coupe and rumble-seat coupe. These models seem to compare with the "standard" models issued by other manufacturers in the low-price field, and might appeal to commercial users.

•

INTERESTING leaflets containing questions and answers regarding registration under the trucking code are now being issued by the National Code Authority for the Trucking Industry. For your free copies address them at the Transportation Bldg., Washington, D. C.

New models of the genuine

BENDIX

Controlled Vacuum

POWER BRAKES

at LOWER PRICES

POWER BRAKES—and power brakes alone—will give your truck, bus or trailer the stopping ability demanded in many localities.

And *Bendix* Controlled Vacuum Power Brakes alone can give you *all* the advantages which power braking has to offer.

Years of world-wide use on motor vehicles of every description, under every kind of service condition, have proved these great muscle-savers can be relied upon to keep your equipment out of trouble.

To further expand the field and the use of Bendix B-K Power Brakes, new models have been added, at Lower Prices. It is unnecessary to experiment with untried, unknown types of so-called "power brakes." Bendix research facilities and Bendix time-proved engineering genius, have provided the finest braking equipment of every type.

This is why 96% of all Power Brakes in use are Bendix. Write for details.

BENDIX PRODUCTS CORPORATION
401 Bendix Drive, South Bend, Indiana
(Subsidiary of Bendix Aviation Corporation)

96% OF ALL POWER BRAKES ARE BENDIX

Say "I saw it in FLEET OWNER"—It Helps!

READER SAY-SO

(Picked at Random from The Editor's Mail-Bag)

This IS Cooperation!

"DEAR Mr. Fischer:—We operate a fleet of 522 cars, trucks and buses, which equipment is maintained from six garages. You are now sending copies of your magazine, FLEET OWNER, to the superintendent of our Atlanta garage and to the writer, and I would like to have this privilege extended to our other five garage foremen, if you can consistently do so. Your magazine is so full of valuable information pertaining to fleet operation and maintenance, that I feel it would be of considerable benefit to all of our foremen to have this information."—*W. R. Pollard, Supervisor Automotive Equipment, Georgia Power Company, Atlanta, Ga.*

●

Liked the Graphite Article

"DEAR Mr. Fischer: I was much interested in the March issue of FLEET OWNER, especially the article concerning the use of colloidal graphite in lubrication. We have used material of this kind for breaking in new jobs, rebored jobs and also with pneumatic tools, especially in cold weather. After reading your article, I can readily see that it would be advisable to use colloidal graphite with crankcase oil at all times. I wish to thank you for sending us your magazine each month."—*David G. Miller, Commissioner, Dept. of Public Works, Peekskill, N. Y.*

●

Under Separate Cover, Etc.

"IN a recent issue of FLEET OWNER there was an article "How to Reduce Fleet Accidents" in which was shown a group of posters. This office would like to take advantage of the offer to mail us several sets of these posters for use in our garage and other points in our depots. Thank you in advance for same."—*J. M. Dougherty, Warrant Officer, U. S. Army, Chicago, Ill.*

Thanks, Mr. Fageol!

"DEAR Editor: I wish to commend you on the article "The Low-Down on Graphited Lubricants" appearing in your March issue. Such information is very interesting and certainly appreciated by us."—*C. H. Fageol, Supt. Equipment, East Bay Motor Coach Lines, Oakland, Calif., operating a fleet of 70 buses.*

●

O. K. for Small Fleets, Too!

"WE are operating a fleet of 10 trucks and find the information in your magazine, FLEET OWNER, of great value to us."—*Crown Coat, Apron & Towel Service Co., Philadelphia, Pa.*

●

Sought or Fought?

"DEAR MR. FISCHER:—Your magazine, FLEET OWNER, is received by us at this address each month. It is eagerly s(f)ought for by all of us each month."—*R. F. Knorr, Hudson Building Supply Co., Baltimore, Md.*

●

Just Valuable, That's All

"DEAR EDITOR:—I am a regular reader of FLEET OWNER and I must say that it contains much valuable information for fleet service men. Thank you very kindly for this publication."—*Chas. Klonda, Sheboygan, Wis.*

●

From a Municipality

"DEAR Editor: I enjoy reading each issue of FLEET OWNER, and appreciated your article on brakes. There is no service as hard on brakes as house-to-house garbage collection in a hilly section, as in the City of Rome. We operate a fleet of 13 trucks and 4 passenger cars."—*F. E. Booz, Supt. of Public Works, Rome, Ga.*

Trys Preventive Maintenance

"DEAR EDITOR: Will you kindly send me samples of your forms No. 325 and No. 326 for Preventive Maintenance. I am very anxious to see if it is possible for us to adopt this plan in our fleet of 800 taxicabs."—*Frank Meyer, Supt. of Maintenance, Yellow Cab Company, Philadelphia, Pa.*

(Editor's Note: Forms are being sent under separate cover. Should other fleet operators desire samples of these forms, we'll be glad to get them for you, without cost.)

●

Mr. Mallory Will Oblige

"WOULD it be possible for me to procure a complete set of the lessons appearing in FLEET OWNER, entitled "A Course in Automotive Ignition?" We would appreciate your also advising us what the charge would be for same."—*E. Power, Union Oil Company, Los Angeles, Calif.*

●

Thanks for Passing It On

"RECEIVED the sample copy of FLEET OWNER and have found it very interesting. I am passing it on to our Mechanical Department as they may find some helpful information in its columns. We operate a fleet of 9 trucks and 4 passenger cars."—*J. B. Robertson, Traffic Mgr., American Tobacco Co., Durham, N. C.*

●

Three Articles Clicked

"THE writer has finished reading your March FLEET OWNER and it is a particularly interesting number. Three of the articles in this issue rate well above the average, namely: "Do Fleet Operators Abuse the Highways," "Maintaining the Wanamaker Fleet" and "The Low-Down on Graphited Lubricants".—*John H. Sheehan, Technical Service Dept., South Bend Lathe Works, South Bend, Ind.*

JOHN LAW SEZ:

(Recent Court Decisions as Reported by National Highway Users Conference)

CALIFORNIA

N. R. A. Bus Code Applied

APPLICANT was granted a permit for transportation of passengers in interstate transit in accordance with provisions of N. R. A. Code for the motor bus industry, which requires passenger motor carriers establishing or extending bus operation to secure permit from each and every state in which such operation is conducted.—*Railroad Commission of Calif., Press Bulletin.*

●

CALIFORNIA

Who Are Motor Common Carriers

EVIDENCE held to sustain Railroad Commission finding that motor freight carrier who issued freight bills and standard bills of lading was operating as a common carrier. These facts coupled with the fact that although the carrier had refused shipments where, it was observed, the carrier already had all the freight which it could conveniently handle, were sufficient to sustain the finding that he was operating as a common carrier.—*George et al. v. Railroad Comm., et al. Sup. Ct., 27 P (2) 375.*

●

ILLINOIS

Interstate Ticket for Intrastate

MOTOR passenger carrier not holding an intrastate certificate who nevertheless permitted passengers who had purchased an interstate ticket to make an intrastate journey, was held to be engaged in an illegal practice and the certificated intrastate motor bus carrier operating on the same route was held entitled to a permanent injunction.—*Egyptian Motor Lines, Inc., v. Dixie Greyhound Lines, Inc. U. S. Dist. Ct., East. Dist. of Ill.*

●

MAINE

"Tacking" Under Grandfather Clause

APPLICANT'S predecessor had rendered transportation service for several years prior to applicant's commencement of service. While applicant commenced service at a date subsequent to the "grandfather clause" date, it was held that inasmuch as he directly continued the predecessor's service that by tacking the two service periods together he was entitled as a matter of right under the "grandfather clause" to a certificate.—*Application of Donald W. Willey, Pub. Utilities Commission, X No. 403.*

●

MINNESOTA

Forwarding Agent Held Carrier

PERSON who collects less than carload shipments on different consignors and combines such shipments into carloads is a private carrier. However, where it accepted property for shipment by rail subject to railroad classifications and tariffs, it contracted for no additional compensation and was bound to perform its services for the compensation so fixed.—*Northwest Tablet Co. v. Universal Carloading & Distributing Co. Sup. Ct. of Minn., 250 N. W. 456.*

●

NORTH CAROLINA

Driver's Authority in Emergencies

ALTHOUGH truck driver had no express authority and under ordinary circumstances no implied authority to employ a driver of another truck and thereby establish the relationship of master and servant or employer and employee between the defendant and said driver, he would have this authority in view of the emergency which confronted him,—his truck having broken down and it being necessary for him to have aid in getting repairs.—*In re: Barrier v. Thomas & Howard Co., Sup. Ct. of N. C., 171 S. E., 626.*

●

OHIO

Must Obtain Chauffeur's License

ACCORDING to a recent ruling of the Attorney General, bakery drivers must obtain chauffeurs' licenses. If the man owns the truck and the baked goods belongs to the bakery, he must take out a license, but if the baked goods belongs to himself, no license is required.—*Baker's Helper.*

●

OKLAHOMA

Truck Mileage Tax Interpreted

TRANSPORTATION whether "for hire" or otherwise from one incorporated city or town to another or through two or more such cities or towns, regardless of whether such cities or towns be located in Oklahoma or in any other state, is subject to the requirement that the mileage traveled within Oklahoma be reported to the Commission. Transportation from a city or other location directly to a rural point which is not from one city to another or which does not pass through an additional city is not regarded as within the terms of the motor carrier statute. Local trip mileage entirely within the corporate limits of a city is not regarded as taxable under the motor carrier law, but mileage within or through a city on taxable trips is to be included in reporting the distance traversed.—*Okla. Truck and Bus Bulletin.*

●

OKLAHOMA

Liability for Injury to Employee

THE Southwestern Cotton Oil Company arranged with one George Turner to do some hauling by truck; he in turn employed one Jimmie Bean, who owned a truck; and Bean then employed the claimant, Charles E. Spurlock, as an assistant or a helper on the truck. While repairing the truck in an alley back of Bean's home, a flying splinter of steel struck claimant in the eye. Without deciding whether the injured person was in the employment of the Southwestern Cotton Oil Company, the court held that the operation of a motor trucks is not a hazardous employment within the Workmen's Compensation Act.—*Southwestern Cotton Oil Co. et al. v. Spurlock et al. Sup. Ct. of Okla. 26 p (2) 405.*

●

OREGON

Truck Peddlers' Taxation Upheld

STATUTE levying tax on produce peddlers based on tonnage carried on truck which exempted growers hauling their own produce held not unreasonably discriminatory.—*Cancilla v. Gehlhar; Ore. Sup. Ct.*

●

PENNSYLVANIA

Re Competitive Operations

TWO common motor carriers are not in a position to complain of Commission ruling granting a third motor truck operator the right to transport freight for five companies between points served by the two motor carriers where the five manufacturers required a very considerable service and a more flexible one than would be furnished by the two motor carriers or the rail carriers. The duty imposed upon a carrier to serve those within its territory is for the benefit of the customer and it is not always necessary or proper to require the carrier to serve all those who have access to other carriers. The court cannot disturb the commission ruling which is based upon competitive and relevant evidence unless it clearly appears that the action is unreasonable and not in conformity with the law.—*In re: York Motor Company et al v. Public Service Commission et al., Pa. Superior Ct.*

NOTE:

Literature listed here is all "Hot Off the Press" and is guaranteed to be of interest to fleet maintenance men.—H. C. F.

•

171. **Vacuum Spark Control.** Here is a new booklet that explains exactly how the vacuum-operated automatic spark advance unit works on the 1933 and 1934 Chevvies. Since this is a distinctly new method of engine control, every fleet man with Chevrolet cars in his fleet should be interested in this booklet. It also tells the proper way to use governors on cars with this type of spark advance—something which has been quite hazy in many men's minds. Blueprints and other drawings make the booklet interesting. But you must put Number 171 down on our coupon below, if you want it.

•

172. **Marmon-Herrington News.** An interesting publication, issued periodically, that illustrates and describes many different applications of heavy-duty trucks. It also contains a wealth of semi-technical information on the advantages of 4-wheel and 6-wheel drive trucks, facts about load distribution, axles, tracking, turning radius, etc. If you would like to be placed on the mailing list to receive every issue, we'll see that this is done, free of charge. Just indicate Number 172 on the coupon. Here's hoping that you'll find this as interesting as you find FLEET OWNER—or more so.

•

173. **No More Stuck Starters.** That's a promise that sounds pretty good. It is made by the manufacturers of the "Charter Drive" who have just issued a special booklet for the fleet service superintendent. It explains all about this late development in starter drives, gives listings and installation instructions. It also shows exactly how to make various starting motor tests, including r.p.m.-test; lock-torque-test; armature-tests; etc. A free copy of this book can be had by listing Number 173 below.

174. **For Greater Fuel Economy.** It is well known that many automotive vehicles waste from 15% to 30% of the fuel supplied, due to improper carburetor adjustment, faulty timing, etc. This loss runs into many millions of dollars annually. But you've heard this story before. Exhaust gas analysis and subsequent tune-up routine is about the best way to remedy such conditions. You've also heard that one before. But we don't believe you've seen the *latest* booklet on this subject. It tells how exhaust gas tests can now be made *on the road*, as well as in the shop. Mention Number 174 and the booklet is yours. It answers a lot of questions that you may have had in mind.

•

175. **Facts About Tin-Plated Pistons.** There, in five words, is the title of an interesting folder which tells practically everything you want to know regarding the latest development in pistons—tin-plating. Just in case you forgot—tin plated pistons can be fitted with half the regular clearances, and still not bind or score; they also eliminate costly "break-in" periods. Don't overlook this new opportunity to lower your maintenance costs. We'll help you by obtaining the folder, if you but mention Number 175.

•

176. **Free Safety Manual.** This is a 48-page book that tells how to prevent accidents, save money, and build good-will for your fleet. It tells how to organize under the Safety Award Plan and how to get free awards for your drivers. And there's no catch to it either. The book will be sent without obligation, to any fleet operator—anywhere. If you doubt it, just put down Number 176 on the coupon, and see for yourself.

•

177. **Brake Trouble Shooting.** That's only one of the subjects covered in this Brake Reliners' Manual. It contains in fact, 124 pages, chock full of information on relining, adjusting and trouble shooting. Any type of brake and any system of braking. And you'll find it completely illustrated with many drawings and photographs. This valuable brake manual, designated as Number 177 on this page, comes to you through the courtesy of the copyright owners, without cost or obligation.

WHAT DO YOU READ?

HERE'S a hand-picked assortment of literature that is offered to you entirely without obligation.

We've even made it easy for you to get it. Fill in the coupon below, mail to the Editor, and let us do the work. We'll ask them to send it at once and not to bother you with salesmen, either.

•

178. **Facts About Trailer Axles.** A leading axle manufacturer has recently prepared some "common-sense" literature about the part good axles play in trailer economics. Since trailer performance depends to a great extent on the axles used, this literature should be of universal interest. Number 178 brings it, free, of course. They say "A trailer is no better than its axles." Are they right?

•

179. **A Generous Sample.** How "generous" is generous? How "black" is black? These are two things you can learn by including Number 179 on our coupon. The sample is a supply of paint. You can have any color, providing it's black. It's a new heavy-duty black, with a gloss-like sheen, which can be thinned out, three for one. Oh, yes; you'll also get a sample of lacquer thinner, with your sample of black, but unless you are intimately connected with a fleet of cars, trucks or buses, please don't ask for it. If you are, it's free.

•

180. **It is the Law!** Legal advice is costly, as a rule. When you want to run your trucks, buses or trailers into other states, you don't have to consult a lawyer or transportation expert. Not if you have a copy of the latest "Truck and Trailer Size and Weight Restrictions." This is a real handbook that includes every State in the Union. To make it official, each set of state laws is printed right in the book, and countersigned by a prominent authority of each state. There's not a line of advertising in this book and it's free, believe it or not. Convince yourself by asking for Number 180.

The Editor, FLEET OWNER, ...1934
90 West St., New York, N. Y.

Kindly send me without obligation, the following free books mentioned in the.....issue. (Literature will not be sent unless firm name is given.) Order by number.

....

....

Firm Name .....

Address .....

City and State .....

Your Name ..... Position .....

for ROAD and SHOP

Power Elevator Tail-Gate

A DEVICE for increasing the earning power of commercial vehicles is the Davey-Troell Power Elevator Tailgate, for handling loads in or out of truck or van, without manual labor.

The tailgate and its mechanism are in effect a power elevator operated by a take-off from the truck motor. The device is mounted in a welded frame of structural steel, and comprises the rear end of the truck or van body. It can be built into the frame when new body is being constructed, or can be installed in an old chassis. It can be engineered to fit any type of body of any make of truck.

This Power Elevator Tailgate is driven by a worm gear which derives its power from the power take-off on truck motor drive shaft. Two drums near the center of the truck chassis, controlled by a shaft from the worm gear, operate cables leading to rams in vertical sliding grooves, which raise and lower the tailgate.

During travel, the tailgate serves as a regulation type of endgate of standard dimensions. When ready to unload, it is swung out horizontally, flush with floor of truck, and the load is moved out upon it. A touch on the control lever starts the gate lowering. Ordinarily, it moves down to street or sidewalk level within 60 seconds, or will lift a load in the same time. The tailgate can be stopped at any point either up or down. Rate of

vertical motion can be regulated by increasing or decreasing the speed of the truck motor.

The unit handles iceless refrigerators, ranges, radiators, boilers, water heaters, furnaces, and other general retail items; miscellaneous freight; large castings; heavily-loaded boxes or crates; barrel fittings, and the like. It is manufactured under license by Davey Compressor Co., Inc., Kent, Ohio.

Light-Duty Brake Tester

THIS device enables any of your mechanics to easily test the brakes of any passenger car or light truck (including dual wheels), according to the makers.

It will enable them to locate weak or locked brakes and to adjust them to the proper ratio of equalization without the necessity of a road test, it is claimed.

A complete outfit is offered in conjunction with this tester, which includes the tester, all gauges for registering performance and an effective pedal depressor. The Marquette Mfg. Co., Inc., Minneapolis, Minn., will be glad to send you an illustrated folder. Mention of this publication will help identify your request.

•

Fan Belt and Radiator Hose Catalog

PRESENTING a wealth of data for everyone in the automotive service field, a 1934 fan belt and radiator hose catalog has just been published by The B. F. Goodrich Rubber Company, Akron, Ohio, and is now available upon request.

The catalog contains 32 pages of fan belt and radiator hose specifications for passenger cars, trucks, buses and tractors, listed alphabetically and covering practically every piece of automotive equipment now in use.

These specifications list the make of vehicle, model and year, belt number and the size of upper and lower radiator hose. Twenty pages are devoted to tables showing the vehicles which can be serviced by each fan belt.

Of special interest, too, are three pages devoted to detailed instructions for installing fan belts, with 12 illustrations. The catalog also contains dimension tables for Longlife "V" fan belts and Pilgrim flat fan belts. When writing for your free copy, mention of this publication would be appreciated.

•

New Door-Shoe or Bumper

A COMPOSITE safety reenforced door-shoe or bumper, designed to provide a soft, yielding and sealing cushion for railroad cars, subway cars trolley cars, buses, and every type of automatic or semi-automatic door, has just been patented and is now manufactured by The Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., Passaic, N. J.

The new type door-shoe or bumper is soft and yielding and is valued for this safety feature. Passengers who are accidentally wedged by a closing automatic door will not be injured.

The door-shoe or bumper is furnished in a variety of sizes to meet the requirements of existing equipment. Detailed data will be furnished on application.

•

Schrader Pencil-Type Gauge

A NEW, popularly-priced, pencil-type tire gauge is announced by A. Schrader's Son, Inc., Brooklyn, N. Y., makers of tire valves and kindred products.

It is calibrated from 10 to 50 lbs. and is built on the direct-action principle. The four-sided indicator bar is marked so that it can be read from

any angle. Its slender, pencil-type shape makes it easy to handle and use. Finished in chromium. Literature on request.

NEW STUFF *for* ROAD *and* SHOP (*Continued*)

Complete Spark Plug Service Unit

THE unit shown here was developed by Champion Spark Plug engineers and incorporates complete apparatus for visibly testing spark plugs under compression, identical to that which the spark plug encounters in actual operation in the engine, according to Champion Spark Plug Company, Toledo, Ohio.

All spark plugs, regardless of make or size can be taken care of and their performance compared to new ones.

This unit also incorporates a scientifically designed spark plug cleaner, which thoroughly cleans all spark plugs without dismantling them.

Over 20,000 service men are reporting widespread interest in this job, the makers point out. It should be of service to the fleet operator, too. Details will gladly be sent on request, without obligation. You'll mention FLEET OWNER when writing, won't you?

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Four New Dupont No. 7 Products

FOUR new products have been added to the Du Pont No. 7 Line. One of these is a liquid preparation called Duco Cleaner and Polish, chiefly for use on automotive finishes before waxing. It is a companion product to No. 7 Duco-Wax, which was placed on the market a year ago. Du Pont chemists claim that, by using this new liquid cleaner and following with Duco-Wax, you can produce a luster which will last for months and protect the finish.

It is not intended that these products should supersede No. 7 Duco Polish or No. 7 Pre-Wax Cleaner. The former product is still recommended for use where the owner does not wish a wax finish. The Pre Wax Cleaner is still recommended for cleaning cars which are badly weathered and require a faster cutting cleaner.

The second new product announced by du Pont is an oil emulsion which they are calling Flint Polish. It is intended chiefly for use in applying a quick polish to cars whose finish is in fairly good condition. This will be packed only in one gallon cans.

The other new products are a heavy-bodied top dressing which is called Thickote, and a paste wax dressing called Auto Top Wax. Thickote is intended chiefly for use on old and badly weathered auto tops which have started to crack and leak. This product is claimed to seal cracks, stop leaks and thoroughly waterproof the old top material. It produces a glossy, jet black finish.

The new Top Wax is intended for use on new and fairly new auto tops. Du Pont chemists have found that, by using this dressing every two or three months, it will keep the top material soft and pliable and will preserve the top almost indefinitely. This dressing prevents checking and cracking, and keeps the material waterproof and new looking, it is claimed. It can be applied and rubbed to a luster in a few minutes and the car may be used as soon as the top is finished.

•

Improved Spur Geared Chain Hoist

ANNOUNCEMENT of an improved model chain hoist is made by the Wright Manufacturing Division of the American Chain Company, Inc., York, Pa. Improvements have been made over the previous model to increase its durability, efficiency and usefulness.

One innovation is zinc-coating of all exposed parts, making the hoist practical for outdoor use and for service in moist and other corrosive atmospheres. The addition of precision ball bearings with integral grease seals supporting all moving parts, increases the efficiency.

Wear is reduced to a minimum on all vital moving parts by a system of continuous lubrication of the sealed precision bearings. Additional minor improvements include hardened pawl tip, improved load chain guard and ball spring covers on oil tubes. No change is made in price over former models.

Red hand chain guide and name plate on the zinc-coated exterior provide the distinguishing marks for the Wright improved model high-speed hoist and add to the attractiveness of this precision-made piece of machinery. Details are available on request.

•

New Jack for 1½-ton Trucks

THE Simmons Silver King line of hydraulic jacks now includes a new 2½ ton model especially designed for Ford and Chevrolet trucks.

The starting height is 8" and the lift 6". Model T-2½ is without screw extension and Model T-2½-S includes a 3" screw extension. One piece leakproof body, pressure cylinder anchored top and bottom, and other features of construction are incorporated in these new models.

Descriptive catalog with complete information on all Simmons Jacks may be secured by writing the Simmons Manufacturing Co., Cleveland, Ohio.

•

Non-Shrinkable Wood Putty

A NEW wood putty has recently been announced by the Las-Stik Mfg. Co., Hamilton, Ohio, the principal claim for which is that it will not shrink or pull away from the surrounding wood.

This product is made from natural wood and a synthetic resin. It can be planed and when hard has practically the same properties as wood. It may be colored with special Las-Stik wood colors which come in three shades; in addition, the putty is made in the common wood finishes—natural, mahogany, light oak, dark oak, walnut and white.

Las-Stik wood putty will be sold through jobbers and dealers. It comes in tubes, cans and larger quantities for the bulk user. Fleet operators who do their own wood body work will probably find this new material of interest. When writing for details, mention of this publication will be appreciated.

NEW STUFF *for* ROAD *and* SHOP (*Continued*)

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New Catalog on Lathes

A NEW general catalog of 72 pages, showing the complete 1934 line of South Bend Lathes, attachments and tools has just been published.

This catalog illustrates, describes and prices 96 sizes and types of lathes from 9-inch bench lathes up to the heavy 18-inch lathes and 36-inch brake drum lathes. There are several sizes of lathes and a variety of attachments adaptable for handling machining and grinding jobs in automotive fleet service shops. There are other lathes suited for plant maintenance work, general machine shop work and manufacturing work.

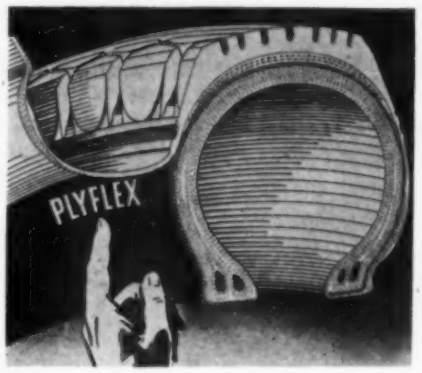
All lathes shown are of the back-geared, screw cutting type. These are available in a complete range of

sizes, in various motor drive models and in countershaft drive models. Any reader interested may obtain a copy of this new "Catalog No. 94" without charge or obligation, by writing to the Technical Service Dept., South Bend Lathe Works, South Bend, Indiana and mentioning the name of this publication.

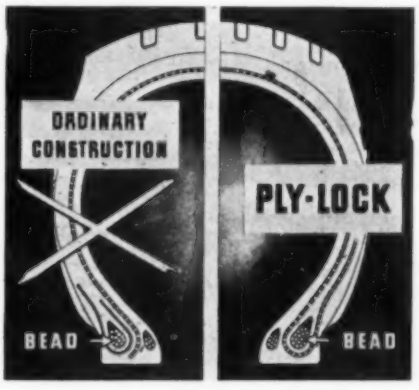
New Goodrich Truck and Bus Tire

A NEWLY developed truck and bus tire, with improvements over previous construction, is announced by The B. F. Goodrich Company, Akron, Ohio.

The new tire, known as the Goodrich Triple-Protected Silvertown, has three new protection features, Plyflex, Ply-lock and 100 per cent Full Floating Cords, the manufacturer says.



Plyflex is a new, tough, sturdy rubber material and the new tire has a layer of it protecting the side-wall. It bears the brunt of the strains caused by the tire flexing several hundred times a minute, distributes stresses throughout the carcass and prevents local weakness, it is declared.



Ply-lock is a new process of locking the continuous plies of the tire around the bead, anchoring them in place and floating the tapered ply ends in rubber. Its use prevents the plies tearing loose just above the bead.

Full Floating Cord fabric used in the new product is completely "floated-in-rubber," so that every cord is entirely surrounded by rubber. This process, it is claimed, makes it possible to extend the life of the tire, since it runs cooler due to the absence of friction causing cross-cords.

•

Two New Tubes by Goodrich

TWO new passenger car tire tubes, one of which will not be cut to ribbons if run flat, and the other a puncture-sealing tube incorporating new principles for a product of this kind have been introduced by The B. F. Goodrich Company, Akron, Ohio.

The first, named the Gold and Black tube, is made of specially compounded rubber in two sections. First, the entire tube is made of one tough rubber stock, and then a layer of abrasion-resisting rubber is vulcanized over the inside circumference of the tube. This strip is made to give resistance to chafing at points where the most chafing action occurs, and to afford double protection from common causes of tube failure.

The puncture-sealing tube is named Seal-O-Matic. It is believed entirely different in construction from previous products of this type, incorporating a layer of plastic gum rubber inside the tube wall. This rubber, specially compounded for this one purpose, flows into any hole that may be driven into the tube without allowing the tube to lose the air. The tube is so light that it can be used on the smallest cars, allowing them to ride as easily as on ordinary tubes.

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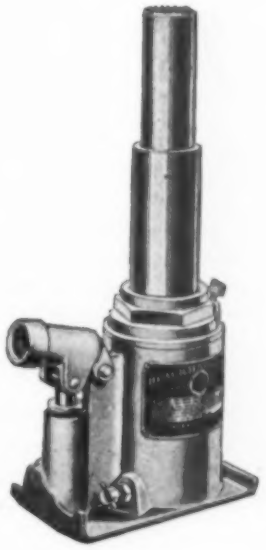
Show Dates Changed

NEW dates for the Automotive Service Industries Show are announced. It will be held at Cleveland, November 19th to 23rd. The sponsoring associations are the Motor and Equipment Manufacturers Association; the Motor and Equipment Wholesalers Association; and the National Standard Parts Association.

•

Here's a Low Hydraulic Jack

BLACKHAWK'S Model L5.5 Lo-Hi hydraulic jack is shown here. When collapsed, it is but 5½ inches in height. There is a 7-inch lift, with double telescoping ram. Capacity of jack is 2,000 lbs.—ample for all passenger cars.



A two-piece 34" handle is furnished. The jack is mounted on a sled-type base and is operated, of course, by hydraulic oil power. Write to Blackhawk Mfg. Co., 120 N. B'way., Milwaukee, Wis., for further information.

QUESTION *of the* MONTH

"By far, one of the most valuable departments to be found in any automotive publication. Every fleet man should be delighted to cooperate."—A Reader

Some of the Interesting Replies to the Fender Question (No. 43):

Fender Experience in Large Bus Fleet

"THE method we follow to prevent fenders from rusting is to keep the fenders painted, and to touch-up scratches and bare-spots as soon as they are noticeable. We also paint the under-sides of fenders yearly, and thus do not have any trouble from premature rusting-out.

"All fender repairs are made in our own shop, for which work we have fender-hammers, dolly-blocks, soft-faced hammers, pry-bars and welding equipment.

"When complete fender refinishing is necessary we use enamel and apply it by spray. Replacement of fenders, 100% of which is due to accidents, are obtained from the vehicle dealer. Service on the same has been satisfactory. We do not make any of our fenders."—*J. R. Oliver, Chief Mechanic, Safe Bus Co., Winston-Salem, N. C., operating a fleet of 42 buses, 2 trucks and 12 passenger cars.*

●

Salt-Water Atmosphere Causes Fender Damage

"SOME trouble is experienced on our cars and trucks that operate in salt-water districts; the fenders seem to eat-out. This amounts to about 10% of our fender replacements; the other 90% being due to accident damage. We replace about six fenders per year.

"We make our own fender repairs, using fender-hammers, dolly-blocks, soft-faced hammers, fender rollers, pry-bars, welding equipment and some home-made fender tools for special work.

"When complete fender refinishing is done, we use lacquer and enamel; also spray and brush work. We do not paint the under-sides of fenders. Replacement fenders are secured from the vehicle dealer. Service thus far has been satisfactory. We make some fenders for our special heavy-duty trucks."—*C. T. Whipple, Garage Supt., Mid-Continent Petroleum Corp., Tulsa, Okla., operating 60 trucks, 200 passenger cars and 35 other vehicles.*

●

No Fenders Necessary on Trailers?

"ON account of the high cost for repairs to fenders on 97 of our tractors, they were removed and not replaced. We also have 457 trailers without fenders.

"Some of our fender work on the other vehicles is done in our own shop; some of it is farmed out. We have no special fender tools. When complete fender painting is required, we use spray and brush methods, with several makes of oil paints and lacquers. At this time the under-sides of our fenders are also painted. We have had no trouble with rusting-out.

"Replacement fenders are furnished by the vehicle dealers and fender jobbers. We do not keep records of the number replaced, all of which are due to accidental breakage. We do not make any of our own fenders."—*Ben F. Weber, Supt., Columbia Terminals Co., St. Louis, Mo., operating a fleet of 178 trucks, 116 tractors, 12 passenger cars and 485 trailers.*

●

Fenders on Dump Trucks Keep Bodies Cleaner

"OUR experience indicates that by having fenders on dump trucks, we not only are helped to keep our bodies cleaner, but this serves to identify them on the road, as well.

"Only minor repairs to fenders are made in our own shop; major jobs are farmed out. However, we are equipped for this work as follows: fender-hammers, dolly-blocks, soft-faced hammers, welding equipment, clamps and fender-jack.

"We use both lacquer and enamel for fender work, applying it by both brush and spray methods. On complete paint jobs we also paint the under-sides of fenders. Some passenger car fenders have rusted out prematurely.

"Our source of supply on fenders is the vehicle manufacturer and the vehicle dealer. We replace about 12 per year, 50% of which is due to accidents and 50% to rusting. We make some dump truck fenders in our own shop."—*J. L. Peck, Shop Foreman, Toledo Edison Co., Toledo, Ohio, operating a fleet of 60 trucks and 80 passenger cars.*

●

County Highway Fleet's Fender Experience

"WE make our own fender repairs, and have the following equipment for this purpose: fender-hammers, dolly-blocks, soft-faced hammers, pry-bars and welding equipment.

"When complete fender refinishing is necessary, we use the spray method for applying pyroxylin finish. Whenever rust shows on the under-sides of fenders, these are painted. Some of the light passenger car fenders have rusted out prematurely, however.

"Fenders are obtained from the vehicle dealer. Service thus far has been satisfactory. We replace about 10 per year. Accidents cause 95% of fender replacements; rusting-out causes about 5%.

"We make some fenders for trucks. We find that our own fenders, made with brackets on the *top*, save tires and are much easier to clean. Our fleet consists of 25 trucks, 4 passenger cars and 41 tractors."—*W. R. Spellman, Shop Foreman, Vernon County Highway Dept., Viroqua, Wis.*

Makes Minor Fender Repairs; Farm-Out Major

"FOR economy and convenience, all minor fender repairs are made in our own shop. Major important work is farmed out to specialists in this line. Our fender repair equipment includes fender-hammers, dolly-blocks, soft-faced hammers, welding equipment, files, sanding machine, etc.

"We use enamel for refinishing truck fenders; lacquer for passenger car fenders, applied by spray. We paint the under-sides of fenders as often as required and have experienced no premature failures due to rusting through.

"Replacement fenders are obtained from a fender jobber. Service in most cases has been satisfactory. Of our replacements, 90% are due to accidents and about 10% to rusting. We do not make any of our fenders." —*Geo. A. Hogg, Supt. of Trans., The Scranton Electric Co., Scranton, Pa., operating a fleet of 25 trucks and 50 passenger cars.*

●

Rust-Proofed Fenders Easier to Maintain

"WE find that when fenders are of extremely light gauge metal, it is difficult to keep paint on them. Fenders that are rust-proofed at the factory are easier to maintain.

"Some of our fender repairs are made in our own shop, but most of it is farmed out. We have fender-hammers, dolly-blocks and welding equipment.

"When it is necessary to completely repaint a fender we use lacquer and spray it on. When the whole vehicle is refinished, the under-sides of the fenders are also painted. None of them have rusted out prematurely.

"When fender replacement is necessary, the vehicle dealer is our source of supply. Service thus far has been satisfactory. We use about 3 or 4 new fenders per year. Fifty percent of our replacements are due to accidents; the other 50% to rusting out. We make some truck fenders ourselves."—*R. E. Gustafson, Motor Vehicle Inspector, Lincoln Telephone & Telegraph Co., Lincoln, Nebr., operating a fleet of 30 trucks and 130 passenger cars.*

●

Is Farmed-Out Fender Work Cheaper?

"ACCORDING to our experience, by sending fender work out to a regular 'fender hospital' we can have this work done cheaper than if we were to do it ourselves. However, we do make minor fender repairs, and are equipped with fender-hammers, dolly-blocks, welding equipment and pry-bars, for this purpose.

"When complete fender painting is necessary we use the spray method. We do not paint the under-sides of fenders; only when they are repaired, and have not as yet had any trouble from rusting out prematurely.

"We replace about 2 fenders per year, due to accidents. Replacements are obtained from the vehicle manufacturer and the service has been satisfactory."—*Frank Sidleheim, Sales Mgr., Seacrest Laundry, Inc., Elmhurst, L. I., N. Y., operating a fleet of 25 trucks and 6 passenger cars.*

(Please tear out and mail to The Editor, The Fleet Owner, 90 West St., New York City)

Question No. 45—Trailers, Semi-Trailers, Etc.

How many trailers (of all kinds) do you operate? .....

Please indicate below how many of each kind you have.

Semi-Trailers ..... Pole Trailers .....

4-wheel Trailers ..... Other Trailers .....

What makes of trailers does your fleet include? .....

What types of bodies are used on the above trailers? (Please describe) .....

.....

Are tractor-semi-trailer units as safe to operate as straight trucks? .....

If not, what are some of the reasons? .....

.....

Are they as flexible in traffic and close quarters as trucks of equal capacity? .....

Please state any advantages or disadvantages you have experienced through the use of trailers? .....

.....

Do your trailers require much servicing to be kept in running order? .....

What type of service is needed mostly? (Brakes, axles, etc.) .....

.....

Do you have any difficulty with electrical connections, brake connections, etc.? .....

.....

Other service difficulties, if any? .....

Does the carrying of heavier loads, made possible by trailers, cause greater maintenance expense on the tractor units, than if straight trucks were used, carrying smaller loads? .... Does this expense outweigh the trailer's advantages? ....

Remarks .....

.....

We operate .....Trucks; .....Buses; .....Pass. cars; .....Trailers

Note: If you cooperate with us and fill out this questionnaire, you will be entitled to a tabulated report covering all of the answers.

Swap your Maintenance experience with other fleet operators in this easy, convenient way. We do the work. You get the benefit.

Name of Firm .....

Address .....

City and State .....

Your name .....*Position*.....

COST-KEEPING *in a* LARGE BAKERY FLEET

(*Continued from page* 18)

the idea of shutting off the motor when the truck stops. We have been able to change our average miles per gallon from 8 to better than 11, and I would say that shutting off the motor when the truck is standing still played an important part in that improvement.

The number of miles run per day per truck, of course, will make a big difference in the number of miles we get out of a gallon of gas. Trucks that run in congested city districts do not average more than eight miles per gallon, even now. Country routes that have long runs between stops go as high as 17 miles per gallon.

The condition of the truck of course is an important factor. We depend on our periodic inspection and adjustment to help us out on that. Also, we know every period what mileage each truck gets per gallon of gas, and if we see any tendency to slip, we immediately check up on the ignition, timing, brakes, etc., together with a follow-up on the salesman-driver. In winter we of course are not getting as good mileage as we do in summer; however, we have had enough experience to know what we should expect during the various seasons of the year.

I might mention here that from time to time we are approached with certain propositions that if we use a certain gas we will show a marked improvement in our gasoline mileage. We do make some tests from time to time, and our experience so far has been that there is a difference in the mileage we would get out of various gasolines, but that difference is very slight. Usually the lower grades of gas give better mileage. That doesn't necessarily mean that the lower grades of gas are the ones to use, because oftentimes there are some other disadvantages, such as hard-starting in cold weather, vapor-lock where the source of the gasoline is not any too certain, motor knock, etc.

During the last two or three years a certain amount of work has been done with exhaust gas analyzers. We tried these devices on three occasions; twice in Kansas City and once in Chicago. It was rather interesting to me that the trucks we put through such tests did not show up to be bad. I understand the great majority of trucks tested showed a low efficiency of combustion, which can be improved by proper ignition, timing, carburetor setting, etc. It may be just a coincidence that our trucks did not show up that way, but I feel that where you watch the gasoline performance of these trucks constantly, there is likely to be a more than fair showing in proper timing, ignition, carburetion, etc. I do not mean to imply that the use of gas analyzers is not profitable, but the cost of the use of such devices should also be considered.

Fleet operation is a business like any other business, so we have to look at such operations from a dollars-and-cents viewpoint. Technically we may not get as good a combustion with a certain type of gasoline or with a certain set-up as we would with another set-up, but the conditions that may give us perfect technical results may not necessarily be the ones that will cost the least. If we can attain results, even though they may not be perfect, but without going into rather elaborate tests and paying possibly higher prices, we should use the simpler and less expensive methods.

The next item on our cost sheet is "Oil." The subject of oil has been discussed more than often, at meetings, in publications, etc., so all I am going to say is that we try to buy good oil from reputable concerns and use it the best way we know how. We change oil regularly on a mileage basis—1,000 to 1,500 miles, depending on the kind of route the vehicle covers and also on climatic conditions.

Our next item is "Sundry Charges." This includes body repairs and body and chassis painting. In the larger garages we have our own shops for this work. A truck is painted about every 18 to 24 months. We have been touching up and revarnishing about every 6 months. The cost of paint material is about 25% and labor is about 75% of the total cost of a paint job. In view of this, we feel that it is good economy to use the best paint material available.

"Depreciation" is the next item. We depreciate our chasses at the rate of one cent per mile. The custom-built bodies are depreciated over a period of 7½ years. Where factory-built bodies are used, we depreciate at the rate of $1.25 a mile for the whole truck. If a chassis does not run many miles per day, we charge a minimum of 26% a year.

Rate of depreciation is more than just an accounting figure. As an expense, depreciation is as great if not greater than the cost of gasoline. By setting up a rate, we are attempting to estimate the economical life of a truck. If our rate is too high, then we are likely to find that new trucks cost more to operate than older equipment. If the rate is too low, old equipment will carry a book value and a depreciation charge that is not in line with the actual condition of the truck, and in that case, the old truck will not only be penalized by a higher repair cost, but will carry the burden of depreciation charge that should have been applied to the earlier stages of the truck operation. A high depreciation rate is liable to lead to a slow replacement program, while a low rate may cause disposal of equipment too soon.

Depreciation rate and repair costs are closely related. I might point out that during periods of business depression, repair costs are lower and that is one reason why equipment is kept in service longer than would be the case during more prosperous times. The fact that there was a decrease in new truck sales during the last two years was not entirely due to a desire to keep capital expenditures down. Low maintenance costs had something to do with it. Close study of operating costs are necessary if we want to determine when is the right time to buy new trucks.

While a fixed depreciation rate is necessary for accounting purposes, the fleet operator must keep in mind that depreciation charges are an estimate and that the actual cost is not known until the truck is disposed of. Depreciation, repair costs and replacement are closely related. Recently there has been quite a number of discussions at S.A.E. meetings and in transportation magazines, on this subject. Everyone seems to agree that when the rate of increase in repair costs is greater than the rate of decrease in depreciation charges, then it is economical to replace the old truck. That idea sounds simple.

It is not quite so simple to use that idea. We can foretell the rate of decrease in depreciation easily. For example, a truck costing $1,000.00 will depreciate 1c a mile if the truck is driven 100,000 miles. It will depreciate 2/3c a mile over 150,000 miles. It will depreciate ½c a mile over 200,000 miles and so on. However, the rate of increase in repairs cannot be foretold. We are trying out a plan that may help in this

problem. We keep a record of the cumulative maintenance costs per mile for each truck. This maintenance cost does not include gasoline, depreciation, fixed charges. Next column to this cost we show the *actual* depreciation per mile. With these two figures, next to each other, we should get a comparison between rate of increase in maintenance costs and rate of decrease in depreciation charges.

The next item is "Fixed Charges." It includes: property damage, public liability, fire and theft insurance; licenses, and general office administrative expense. As far as insurance is concerned, we have been able to lower this cost by a program of safety promotion. Insurance charges depend to a large extent on loss experience. We have found that it pays to drive carefully. Our safety promotion work consists chiefly of safety committee activities at each plant, of posters, bulletins, contests, etc.

●

Self Vs. Outside Maintenance

(*Continued from page* 19)

speed is required to make it economical for a certain *size* of truck, regardless of the number of vehicles to be serviced. A large storage tank and a small high-pressure compressor *may* serve a 20-vehicle truck fleet, but a *large* high-speed compressor with the proper size storage tank will cost *less* to operate.

Again, a hand-type tire gauge is recommended for a 20-vehicle fleet, as against a wall-type tire gauge for a 100-vehicle fleet. It goes without saying that the tire gauge which is attached to the chuck on the wall type of tire gauge will save much time, and will be more economical, regardless of the size of the fleet.

And so it goes. Nothing can change the fact that proper equipment and the right *knowledge* are necessary, if fleet servicing is to be fast and efficient. A small fleet cannot carry the overhead charges necessary to provide proper equipment and cannot get the maximum results at the minimum of cost.

In closing these few remarks, I want to express to you my appreciation of the splendid work which FLEET OWNER is doing in the interest of better fleet operation and maintenance. I shall be glad to have you publish these few thoughts of mine, but must request that my name should not be used. I am at present in charge of a small fleet of the type just discussed, and were the owner of our fleet to observe my *real* opinions on this subject, I certainly would not blame him if he fired me. He would naturally feel that if I did not believe that I could do a good job with our present set-up, it would behoove him to get someone else who did. And why shouldn't he? But I hope he doesn't find it out, as the wife and kiddies must eat.

●

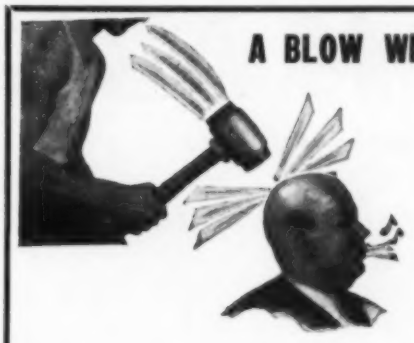
100,000 Miles and No Major Repairs

(*Continued from page* 20)

8. Ignition systems should be tested and adjusted and compression readings taken.

9. Drive-shafts and universal joints should be taken down twice each year, all old grease or oil washed out, and new oil and gaskets installed. By so doing, it has been found that joints may run 150,000 miles without any repairs or replacements except that of gaskets which cost but a few pennies.

10. At the time of inspection, all bolts and nuts should be reset to insure tightness. All spring hangers should be adjusted or washered to remove all



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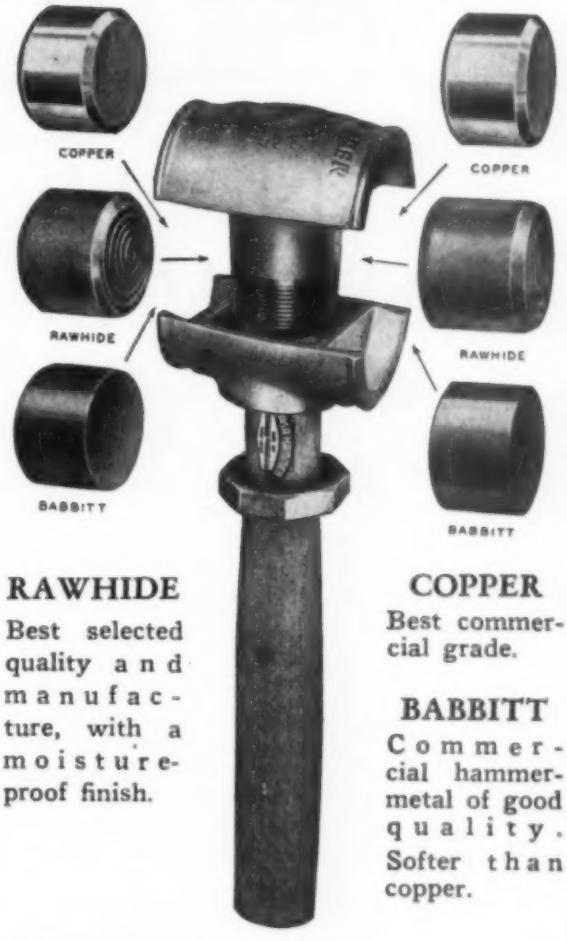

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Best commercial grade.

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Commercial hammer-metal of good quality. Softer than copper.

In finishing and assembling work it is often desirable to use a hammer that can strike more than one kind of blow.

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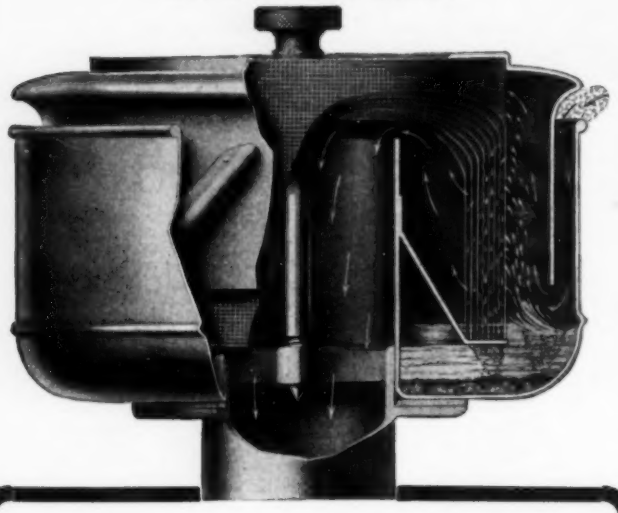

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When you let air enter the carburetor "as is" you invite dust and dirt to get into the finely fitted working parts of your engine. Hard carbon forms. Bearings burn out. Cylinder walls show premature wear. Oil is contaminated and has to be changed more frequently than necessary.

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AIR - MAZE CORPORATION

312 Caxton Building • Cleveland, Ohio

100,000 Miles and No Major Repairs

(*Continued from page 53*)

side play. This is important in order to retain the lubricants and it also will prevent swaying and in some instances shimmying.

The methods outlined herein may seem costly but our experience over a period of five years has proven quite to the contrary, as compared with the practice of making repairs only when necessary or after something has failed.

●

Farmed-Out Welding Jobs That Paid

(*Continued from page 22*)

tion so that the section to be repaired was as nearly horizontal as possible. The casting was then preheated to just the correct temperature for best welding. Care was taken not to let it get too hot because of the danger of the whole casting collapsing. By scraping the aluminum lightly with a puddling rod, the operators were able to tell when it had reached the temperature for welding, because the metal in the casting would just begin to feel soft.

The asbestos cover on the furnace was then removed from over the section of the case to be welded. All welding, wherever possible, was started on the inside of a joint and carried out toward the outer edges. The flame was kept moving constantly because of the ease with which aluminum melts and when each section of the joint became soft enough, the puddling rod was used to scrape out a vee about 2 in. long and the welding rod was then added.

As those who have tried this type of work well know, the welding rod cannot be added by melting the rod in the puddle of molten metal as is done in the case of welding steel or cast iron. The rod must be held in the flame near the metal where it will quickly begin to run into the prepared and scraped-out channel. When a little puddle has formed, the welding rod is placed into it and worked around with a rubbing motion in order to make certain that it penetrates to the bottom of the channel and well up on the sides. This breaks up a thin coating of oxide which forms almost instantly and allows the added metal to form a true weld with the sides of the joint.

When each joint has been reinforced about ⅛ in., the oxide coating is removed with a puddling rod and the addition of a little flux. It is not possible to scrape all of the oxide from the top of the molten puddle because more forms as fast as the clean metal underneath is exposed.

By working along in 2-in. sections in this fashion, the two patches were completely welded into place and all other welding work finished up on the job. The asbestos was then thrown back over the furnace opening, the casting reheated to an even heat and permitted to cool off slowly, keeping it well protected from any drafts of air.

Altogether about 9 lb. of aluminum welding rod was used for this work. The time for preparing the work, making the patches, fitting the patches, preheating and getting ready to weld was 14 hr. The actual welding time consumed another 7 hr.

When this job was completed, it was delivered to the fleet owner and reinstalled on the truck motor. It has now been in use for some time. Immediately following this job a similar crank case (shown at the head of this article) was turned over to the welding shop for reclamation, and the job was carried out just as successfully.

Eliminating Premature Truck Tire Wear

(*Continued from page* 28)

axle has become sprung so that it sags in the middle under load. Rapid wear on the inner dual tire, however, does not always indicate a bent axle and this brings us to the second general cause of peculiar wear on truck tires.

Where dual tires are used on high crowned roads, the inner tire is called upon to carry a much greater proportion of the load than the outer tire. This results in rapid wear of the inner tire, due to the fact that the load per square inch of the tread in contact with the road is much greater on the inner tire.

While it is not always possible to remedy this condition entirely, it is usually relieved by mounting the tire which is slightly worn on the inner position along with a newer tire on the outer position. On some operations the condition may be relieved by carrying a higher air pressure in the outer tire than in the inner, although this practice is not recommended as a definite cure for *all* cases of this kind.

Under-inflation is also a cause of peculiar tread wear. When a tire is under-inflated, it usually wears unevenly and more rapidly on the shoulders or outer edges than in the center. The ordinary tire gauge will not last indefinitely, particularly if subjected to abuse, and it should be checked periodically against a master gauge to be sure that it is correct. Over-inflation causes the tire to wear down more rapidly in the center. Tires do not ordinarily show this condition unless the loads being carried are rather light.

Truck tires should be inspected periodically for indications of unnatural wear which may be the result of improper mechanical adjustment or unusual operating conditions in order to get the maximum service from them.

●

When Should Crankcase Oil Be Changed?

(*Continued from page* 30)

The Blue Ridge Transportation Company of Hagerstown, Md., for example, makes a practice of draining each bus after every run, regardless of distance covered, but without the advantage of reclamation it would be absolutely impossible for them to do this as their oil bills would be prohibitive.

Should any fleet operators reading this article have any particularly difficult lubrication problems, or any questions that have not been answered in the foregoing paragraphs, the author of this article will be glad to give his unbiased opinions and advices, without charge or other obligation. Letters addressed to the Editor, will be given prompt attention, in the interests of better fleet lubrication.

●

Facts About Synthetic Enamels

(*Continued from page* 26)

quers, and the gun will undoubtedly have larger air ports. At least 10, 15 or 20 lbs. more air pressure (than with lacquer) will be required, but please don't hold us down to these figures.

It's not difficult to equip for repainting with synthetic enamels. If you do not have dust-proof rooms, or spray booths, which are highly desirable, you can do as some operators are doing—partition off a corner of the shop, using curtains, tarpaulins, etc. This corner should be well ventilated, although the fumes from most synthetics are not toxic. Any other cars

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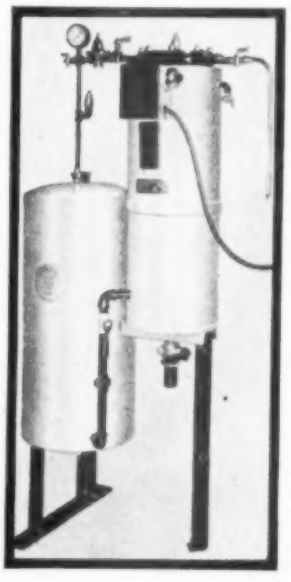
The Skinner Stream-Line Oil Filter removes all non-lubricating contaminants—water, carbonaceous matter, silica, etc., down to particles of 1/250,000 of an inch. It is purely mechanical in its action. Employs no chemicals, thus avoiding all possibility of changing the original structure of the oil. Positive and automatic in operation—compact in size. And it gives you fresh, clean oil at a total cost of 1½c to 4c per gallon. (Available in sizes to meet every need, $125.00 and up.)



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***No.* 6060 (illustrated). Calibrated to gauge *any* pneumatic tire — from 10 to 60 lbs. in one-pound units and from 60 to 160 lbs. in five-pound units.**

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nearby should be protected from "spray dust," since synthetic enamels are "wetter" than lacquers, and any stray spray dust that might settle on other cars would be difficult to remove. In some cases it has been necessary to completely strip other cars that had been accidentally covered with synthetic spray dust. The lacquer spray dust, it seems, dries in the air and falls like dust; the synthetic remains wet even after it falls. Hence our emphasis on protecting other cars from spray dust.

Because of the fact that synthetic finishes dry by oxidation, and are not as fast drying as lacquer, they are more sensitive to climatic conditions, until dry. Too much heat is as bad as too much moisture. And do not close up the finishing room tightly and expect them to dry in a short time. Good ventilation is of paramount importance, with any type of finishing material.

One manufacturer recommends the following procedure, in the event that a synthetic finish has picked up some dust in drying. He tells us that this dust can be removed by using a good *liquid* lacquer polish, the polishing to be done the next day after painting, when the top of the film has become good and hard. He also suggests that it might be desirable to bring the vehicle back to the shop after about four or five days and repeat the process, although no polishing should be required in order to bring out the finish—just to remove the dust. Can you subscribe to this procedure?

As with all kinds of repainting, the job which you will produce depends to a great deal on the condition of the surface and that is why many manufacturers advise complete removal of the old finish, if possible. But being human, we won't always do this, and it would be well to remember that the old surface should be carefully prepared before painting. Wet sanding with high-test gasoline (not Ethyl) is recommended, but some claim that the use of a volatile solvent is better than gasoline, as it will not leave any oil film, which some gasolines are apt to do. The best oil-free solvent that you can get is none too good for this purpose. This solvent will also remove wax or other foreign matter. Turpentine is sometimes recommended for removing wax, but some claim that it is not ideal.

We shall not try to set up any sanding instructions, the thing to remember is that the old finish should be smooth, dry and clean, before applying either the undercoating, or the synthetic enamel itself.

Sanding between coats may or may not be necessary. At least, none seems necessary between the light mist coat and the first full coat. Some manufacturers declare that with synthetics, sanding between any coats is not necessary. Neither is rubbing, to bring out gloss. One manufacturer simply recommends "scuffing the old surface slightly with steel wool to remove the nibs" and then applying the mist and full coats of synthetic.

So you can see what sort of a jam we would run into if we attempted to set up any arbitrary rules and regulations regarding the application of synthetic enamels, and we "ain't goin' to do it." Instead, we'll pass on a few tips that we've picked up here and there, for whatever they may be worth.

Most painters are familiar with "tack rags." Most laymen are not. Tack rags are simply clean cloths which have been soaked in linseed oil or varnish and allowed to become dry or tacky. These are used successfully in wiping off dust after sanding operations, the tacky condition of the rags picking up most of the dust. We understand that you can also obtain specially prepared tack rags, from your paint supplier. But do not use a dry rag, as you are likely to put more lint

into the surface than what dust you might remove.

A word about masking on synthetics. On most finishes of this kind, masking can be done the next day without danger of the masking tape sticking to the finish. It might be a good idea to pounce chalk on the surface, before applying the masking tape, similar to the way it is done on a gold-leaf job. This chalking will prevent the tape from sticking to the partly oxidized finish, when it's time to take it off.

Some operators will prefer to do a certain amount of brush work. This can be done with synthetics, some manufacturers supplying a special brushing grade, while others recommend the regular spraying grade, to which has been added what is called "retarder." The latter slows the drying somewhat and permits brushing, even over large surfaces. It would be well here, also, to follow the manufacturer's recommendations as to brushing. Generally speaking, synthetics *can* be brushed, but under certain conditions and stipulations.

A word about "wet" spots. Sometimes there will be a wet spot that does not seem to dry completely. This is undoubtedly caused by some wax or grease left on the job before refinishing. One manufacturer recommends complete removal of the wet spot with gasoline and re-spraying it. Carefully patched jobs of this kind will not be noticed, he says. Another manufacturer suggests that you take a *clean* rag, saturated with gasoline, and allow it to rest on the painted surface. This procedure is claimed to draw out the wax or grease through the paint film and the paint will then dry completely. From our experience with synthetics, we are inclined to prefer the former procedure.

And now with regard to paint-removers. Should you decide to remove the old finish with a chemical remover, it is well to remember that practically all paint-removers contain wax, acids or strong caustics, all of which are bad for any kind of finish. So be sure to remove all residue which might be left from the paint-remover, especially in corners, joints and cracks. The best solvent that you can get is none too good for the purpose. Altogether too many jobs have been unsatisfactory because of carelessness in removing paint-remover residue.

A good bit of interesting literature has been prepared on the subject of refinishing commercial vehicles, particularly with synthetic finishes. Fleet operators should take advantage of the wealth of information contained in these booklets. We have listed them from time to time in our "literature" columns. If you have not as yet investigated the possibilities of refinishing with synthetic enamels (this can be done on passenger cars, too), the Editor of this publication will help you by placing into your hands literature issued by the various manufacturers. Just drop us a line and ask for "Literature on Synthetic Enamels." We'll see that you get it without obligation.

In conclusion, the thing to remember is that when you choose a finish of this type, follow the manufacturer's instructions *to the letter*. If anything that you have read in this article does not agree with his instructions, just forget that you have ever read this article. We simply have tried to cover the subject in the most *general* way.

●

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This light, well-balanced blowpipe is especially designed to resist rough handling. Its patented conical nozzle protects the seat when the nozzle is dropped. The head, cutting valve body, and lever are pressure forged for added strength. A 75-deg. angle head is furnished as standard, but a 90 deg. head can also be supplied.

Prest-O-Weld Type C-105 Cutting Blowpipe, complete with 4 nozzles, lighter and wrench..... $47.00

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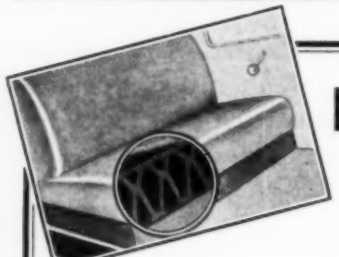

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●

One Week of Auto Shows Under Consideration

DEALERS' shows from coast to coast during a single week in the 1935 spring selling season is the plan now under consideration by manufacturers and others in the motor industry.

Motor car offerings for the spring trade would be made simultaneously in probably 100 cities under the guidance of the local dealer associations. A date between February 15th and March 1st is favored, to be known as Automobile Week.

The carrying out of this experimental plan proposed by the National Automobile Chamber of Commerce, which has sponsored the National Shows each year in New York and Chicago, will depend upon the availability of the proper buildings during that period and would supplant the promotion methods of past years, when the National Show opened the first week in January in New York, with dealers' shows scattered over the three months following.

It has been found that the best results come from dealers' shows at the beginning of the selling season when the public is naturally more interested in the new models.

This might mean a later introduction of models which heretofore have been first presented to the public at the New York national exhibition, beginning early in January, and which would be supplanted by the dealers' show.

300,000 Operators Bow to N.R.A. Regulations

THE trucking industry is now setting its own house in order through a rigorous system of checks and controls provided in its N. R. A. code. All operators for-hire—some 300,000 of them—are flocking to registration booths, set up in every county in the Nation, where they are describing their business in minutest detail as a basis of regulation by the various code authorities prescribed in the code.

Registration is the first mandatory step in effectuation of the code. It was designed to give a comprehensive picture of the industry, complete and accurate figures as to the number of vehicles operated in the various classes of services, number of vehicles in interstate commerce, the tonnage hauled, number of employees, wages paid, commodities transported, radius of operation and other information necessary for effective code administration.

Nothing like that has ever been attempted. The trucking industry has been, more or less, the "X" quantity in transportation. Guesses as to its extent—many of them bad—and the effect on rail transportation have been numerous. The National Code Authority for the industry decided that the guessing shall cease and that every truck and its use shall be pigeonholed; hence, an elaborate program of registration.

When the truck operator registers, he is required to pay a fee, which is intended to cover the cost not only of registration and tabulation of the information so obtained but also of the administration of the code in other respects. For instance, prior to June 14, he must file with his State Code Authority a schedule of his minimum rates. The State Code Authorities are charged with the duty of seeing that the operators adhere to such minima, which must be above the cost of performing the service.

Under such regulation, the so-called "fly-by-night" carrier who has been a thorn in the side of the legitimate operator, is put under leash. Another control against under-cutting is contained in the labor provisions of the code which provide for a 48-hour week and minimum wages for drivers ranging from 35 to 55 cents per hour.

"When a truck operator registers his vehicles," explained Ted V. Rodgers, president of the American Trucking Associations, Inc., and chairman of the National Code Authority, "he will be entitled to a metal plate insignia which he must display on his vehicle.

"Registration is one of the means of obtaining compliance under the code. It is a plan worked out by members of the industry in cooperation with the National Recovery Administration. It should be productive of a vast amount of information hitherto unascertainable about this industry.

"Until such information is obtained, digested and tabulated, it is premature to talk about Federal regulation of highway operators. In order to regulate an industry intelligently, the factors in such industry must be known."

As a result of the general adoption of the forty-eight hour week by the trucking industry, it is estimated that employment in the industry will be increased by about 30 per cent. Many truck operations, prior to adoption of the code, it is pointed out, had been on a sixty to a seventy-two hour week.

American Trucking Associations, Inc., is a federation of 108 regional, state and local motor truck associations which, in turn, are broken down to county chapters or metropolitan groups. Registration of the industry is being handled by these constituent groups.

And that's the way most accidents happen:—

SPEEDING to "Make Up" Wasted Time!

BUT this won't happen if your truck is equipped with the SERVIS RECORDER. It "shows up" all wasted time on its chart. See, on the chart below, how the truck stood idle from 2:00 to 4:00 in the afternoon. No chance of "making up" *that* delay, even if the driver does speed and does "get through" on time. The driver knows this, so he doesn't speed and he does't have accidents.

Steady work — *that's the idea!*

Just enough work for the day—not too much, not too little, and keep 'em at it. That's good for the truck, the driver, and service to your customers. How to do it? Only one way—get a picture of the day's work on chart of the SERVIS RECORDER. The coupon below brings you the whole story. Act today. THE SERVICE RECORDER CO., CLEVELAND, O.

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Mr. Rodgers estimates 500,000 vehicles will be registered. These do not include trucks owned by farmers used in the transportation of their own produce to primary markets or trucks operated not for-hire.

"Regulation of the trucking industry is a gigantic task," admitted Mr. Rodgers. "The Interstate Commerce Commission has made such an admission, even while recommending to Congress that it be allowed to bring all interstate common and contract highway carriers under its jurisdiction.

"Leaders in this industry are decidedly in favor of regulation under the code. The operation of the code already has indicated vast strides toward stabilization of rates and practices. As this type of regulation progresses, the benefits—to shippers and competitive agencies as well as to the members of the industry—should become more apparent."

•

90-Cent Registration Charge Eliminated

NEARLY $2,000,000 has been saved to the operators of private automobile trucks by the executive order eliminating the ninety-cent "registration charge" on not-for-hire trucks. It had been originally planned, by the NRA, to assess this charge to defray the costs of numerous national and state code authorities set up under the trucking code.

Strenuous protest was made by the National Industrial Traffic League, C. E. Childe, Manager, Traffic Bureau, Omaha Chamber of Commerce, and Chairman of the League's Highway Transportation Committee, appearing at code hearings in Washington and pointing out that assessment of the ninety-cent charge against not-for-hire trucks would result in privately owned trucks being called upon to bear 76 per cent of the costs of the entire code administration. A $3-per-truck charge against common carrier trucks was confirmed in the same order in which the not-for-hire assessment was indefinitely suspended.

The estimate as to the saving resulting from the order, issued by the League, is based on a report made recently to the President by his Coordinator of Transportation, Joseph B. Eastman, in which it was said that there were in operation in the country 2,188,370 "not-for-hire" trucks. At ninety cents each, that would have made the assessment total $1,969,533.

•

Record Set in Mass. Safety Contest

THE best record in five years was set up in April by competitors in the Sixth (Massachusetts) State-Wide Commercial Vehicle Safety Contest, according to announcement by the Governor's Committee on Street and Highway Safety. There was marked contrast with the bad accident toll in the first quarter of the year, the reports revealed. The total number of accidents was only 278 and the accident rate per 100,000 hours of operation was 13. Both figures were the lowest in the history of the contests.

The number of competing vehicles and the number of hours of operation decreased somewhat over previous months, yet the rate of accidents still showed a favorable position in comparison with any previous month. The ratio of personal injuries to all accidents, 1 in 5, was not so good as last month, yet was not out of line with past experience. The total of 278 accidents compared with 477 for April last year. This total occurred in 2,063,941 hours of driving by 9,267 vehicles in 304 fleets. There were 198 fleets which as units survived the whole month without a single accident.

Individual honors went to My Bread Baking Company of New Bedford, which was the only fleet to head its group for the fourth month in succession. Boston had the largest number of group winners, six in all, while Worcester ranked next with three. The contest this year is being marked by the large number of new winners each month, only three fleets in April, in addition to the New Bedford concern, scoring two victories in succession.

The awards each month are made on the basis of the lowest accident rate per 100,000 hours of operating in each group into which the contesting fleets are divided. The complete list of monthly group winners for April is as follows:

Group 1A—George W. Ellis Co., Inc., Roxbury
†1B—Worcester Electric Light Co., Worcester
2A—Damon & Roemer, Inc., Boston
*2B—My Bread Baking Co., New Bedford
3A—Community Newsdealers, Inc., Boston
3B—Keogh Storage Co., Fall River
4A—Bernard F. Smith, Inc., Boston
4B—Boston & Taunton Transportation Co., Boston
†5A—Railway Express Agency, Inc., Cape Cod Division
5B—Worcester Gas Light Co., Worcester
6A—Standard Oil Company of New York, Springfield
†6B—Cities Service Refining Co., Braintree
7 —City of Worcester
8 —Independent Taxi Co., Boston
9 —Johnson Bus Lines, Inc., Milford

* Winner four months in succession. † Winner two months in succession.

In addition to the winners, there were 183 fleets which went through the month without a reportable accident but failure to win a monthly award was due to the fact that the winner in their particular division had a greater total number of hours of operation.

●

Met. Section Stages "Drive Yourself" Meet

A MEETING of novelty and interest brought to a close one of the most successful seasons which the Metropolitan Section of the Society of Automotive Engineers has ever enjoyed, when some three hundred members and guests met last month. Various automobile manufacturers and dealers lent to the Section about forty of the latest models of cars and permitted members to test them informally over roads adjacent to the Glenn Curtiss Airport at North Beach, Long Island. Many of the members had their first opportunity to drive the latest models and to judge first hand of their performance. They were enthusiastic over their experience and highly gratified by the cooperation which enabled them to make personal observations of performance.

In the evening, the members assembled for their regular monthly meeting and heard Austin Wolf present an excellent paper entitled *"A Critical Study of Car Design and Performance,"* which was exceptionally well received. Herbert Chase presided over the discussion which dealt not alone with the paper but with the performance of the cars tested during the afternoon. Although there were many criticisms leveled at certain points in performance, it was generally agreed that the recent models show a considerable improvement over their predecessors.

As the test course selected was rather rough, an opportunity to judge riding qualities was afforded. Opinion was divided as to whether cars with independent wheel suspension rode better or not so well as those with more conventional suspension. It was agreed, however, that, on the whole, riding is much improved

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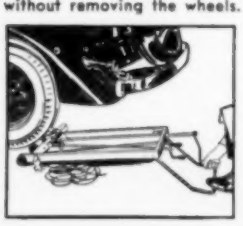
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and that it has been possible to gain good riding without radical changes in suspension when this policy has been followed.

Mr. Wolf's paper was very comprehensive and led to an almost equally wide discussion of various points in design, such as accelerating ability, advantages of departures in transmission design, the effectiveness of streamlining, faults and improvements in steering, the effects of changes in weight distribution and numerous items that make for convenience in operation and maintenance. Some critics registered disappointment over the failure of certain cars to perform as desired and some service men were critical of failure to design for accessibility and ease of maintenance. Others mentioned a lack of convenience in tire changing, a tendency toward noisy operation on certain types of road, a lack of quick response in steering control and a tendency toward an increase in wearing parts of suspension systems. Nevertheless, one gained the impression that, despite some shortcomings, today's cars give excellent value and in general mark an advance in performance which is commendable.

●

More Trucks With Plymetl Paneling

FOUR new Ford V-8 trucks have recently been added to the delivery fleet used by Garage Service Company, Chicago, which firm handles the delivery of newspapers for the Chicago *American* and the Chicago *Herald and Examiner*. One hundred and fifty vehicles comprise the entire fleet.

These bodies are paneled with one-piece Plymetl and no intermediate posts are used. This material was selected for the paneling, it is said, because it meets the severe demands of newspaper service year in and year out. Newspapers *must* be delivered, whatever the conditions and this fleet performs the job very well.

●

New Oxwelding Film Now Available

"THE Prosperity Process," a new two-reel motion picture has just been produced by the International Acetylene Association, 30 East 42nd Street, New York, N. Y. This picture shows the application of the oxy-acetylene process of welding and cutting metals to a wide range of industrial problems in the repair, reclamation and production of metal parts.

The picture is suitable for technical society meetings, engineering colleges, technical, high and trade schools, student sections of the engineering societies, superintendents meetings, safety meetings, foremens club meetings, and other similar gatherings. It is a two-reel subject, requiring approximately 25 minutes for showing.

The film is available in 16 mm. size, which can be shown on standard portable 16 mm. motion picture projectors. Arrangements to borrow this film can be made through the office of the Secretary of the Association. Organizations desiring the use of this picture should specify the date most convenient for its showing, together with an alternate date.

●

EXPERIENCED sales representative seeks connection with automotive manufacturer as representative in the New York Metropolitan territory and vicinity. Have intimate following among fleet managers and service men. Highest references available. Address E. B., care Editor, FLEET OWNER, 90 West St., New York City. (Adv.)

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Ebonite or Black-Gold will be shipped to any rated fleet operator with the understanding that if it does not improve brake action and diminish pedal fade and give more miles per dollar it can be returned any time within six months and the full purchase price will be refunded. Send for test lining today. Give make and model. Stipulate these conditions on your order. Give Make, Year and Model . . . We will send proper materials.

L. J. MILEY COMPANY, Inc.

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Color Has More Than a Surface Value

By Howard Ketcham

Director, Duco Color Advisory Service

FOR years ship owners have sailed the seven seas distinguished by a trade-mark color on smoke-stack, flag or deck housing. Color, consequently, serves in more than one capacity. It not only saves the surface, but imparts symbolism, *esprit de corps*, identifies ownership and in addition acts as an air conditioner. Light colors reflect heat to best advantage. Dark colors absorb heat. The most beautiful colors are the ones best adapted to their uses.

When Professor Piccard made his first flight into the stratosphere, he had his aluminum gondola finished in black, which color was chosen because it absorbs more heat than any other color and it was desired to absorb as much heat as possible from the sun's rays. In the Stratosphere it is 75° below zero. Piccard was too successful. Black absorbed heat to the extent that the temperature was 105° *above* zero inside the gondola. On his second flight, Prof. Piccard used white on the gondola because white reflects heat best. On this flight, the temperature in the gondola was over 50° lower than on the previous flight.

Light colors on passenger buses and on driving shelters on trucks make for cooler, more comfortable transportation, whereas dark colors or black in severely cold climates engender a degree of greater warmth.

Color is a safety factor on the highway. Reds, oranges, yellows all have especially fine visibility and consequently are more readily distinguished. Trucks and buses in characterless color arrangements tend to fuse optically with backgrounds against which they appear, tending to enhance the possibilities of collision with other vehicles.

Deep saffron variations are not too usual and afford new and interesting color possibilities for urban taxi fleets. Saffron—a deep orange-yellow—is a hue that stands out in excellent contrast against dull, drab city colors. It is a nicely noticeable color without being garish.

Frequently, the name of a bus line or the location it serves suggests appropriate color treatment. This *modus operandi* has been successfully used on the locomotives of the Boston and Maine Railroad serving "The Minute Man Route." Buff, blue and copper color serve as significant identification of the continental uniform colors.

Buses that serve in a city can bring beauty and distinction to its streets. Colors symbolic of the beauty in nature are available in the extremely complete assortment of possibilities comprising today's automotive colors.

Because there are more outlets for service than there are requirements today, real value is associated with appearance appeal. It is the appearance factor that tempts business—other things being equal. The correct choice of color in proper balance is becoming generally recognized as a necessity in commercial transportation.

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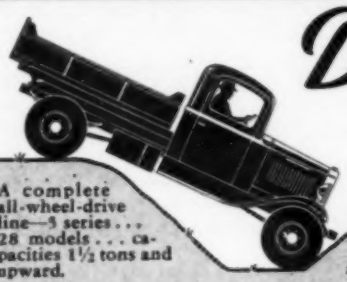

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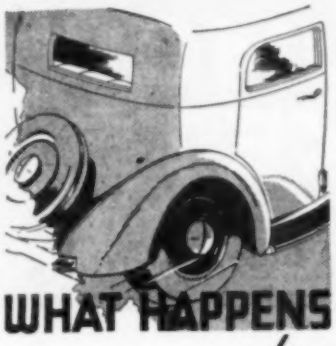

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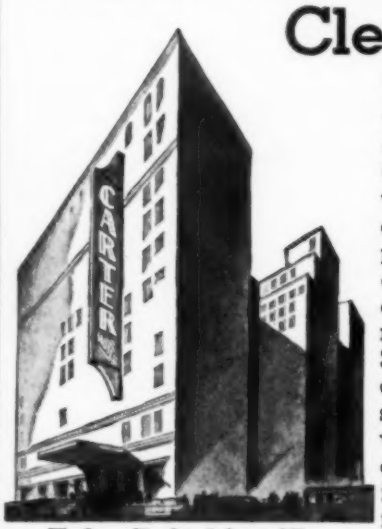

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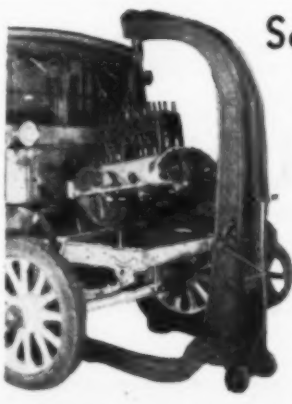

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PROVIDENCE, R. I.

C. H. SPRAG
10 POST OF
BOSTO

Aluminum Company of America
20 Providence Street
Boston, Massachusetts

Gentlemen:-

March 30th 1934

QUOTATIONS SUBJECT TO CHANGE WITHOUT NOTICE. CHANGE IN RAIL FREIGHT RATES AND/OR PRODUCTION, COSTS CAUSED DIRECTLY OR INDIRECTLY BY THE U. S. G. A. OR ANY OTHER FEDERAL OR STATE LEGISLATION AFFECTS CONTRACT AND/OR SHOP PRICES. ALL AGREEMENTS ARE CONTINGENT UPON STRIKES, LOCKOUTS, FAILURE OF GAS SUPPLY, INTERRUPTIONS OF TRANSPORTATION, ANY WAR AFFECTING THEM, AND ALL C... OR UNAVOIDABLE CASUALTIES. RAILROAD SCALE WEIGHTS TO GOVERN SETTLEMENT.

In answer to your inquiry relative to the aluminum body of 16 cubic yard capacity which was built and put into service by us in January 1930, we offer the following information:

The aluminum body in question has been in continuous service for more than four years and has been subject to the rough treatment coincident with the delivery of Bituminous coal.

We estimate that the truck has made approximately Four Thousand trips with an added payload per trip of approximately 2025 pounds due to the saving in weight through the use of aluminum. The additional payload represents extra income of a considerable amount over this period of operation.

We have never tried to estimate the savings on tires, oil, gasoline at times when the truck was running empty but we are to believe that appreciable gains are being made in this direction.

Until the present time we have expended nothing for body repairs and a recent inspection indicates that the body will give many more years of useful service.

Very truly yours,
SEACONNET COAL COMPANY
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